MINUTES OF THE MEETING
HUMAN SERVICES AND AGING COMMITTEE
50TH LEGISLATIVE SESSION
HOUSE OF REPRESENTATIVES

The meeting of the Human Services and Aging Committee was called to order by Chairman R. Budd Gould at 1:00 p.m. on Thursday, March 12, 1987 in Room 312-D of the State Capitol.

ROLL CALL: All members were present except Rep. Stella Jean Hansen who was absent.

CONSIDERATION OF SENATE BILL 305:

Senator Eck presented Senate Bill 305.

PROPONENTS:

ROGER TIPPY, lobbyist for the Montana Dental Association, presented testimony prepared by Kristian Hienberg. SB305 allows qualified oral surgeons on the medical staff of the hospital to take histories and physicals of patients they admit to the hospital for oral and maxilla facial surgery. He pointed out that presently an attending MD who is not involved in the case takes the history. Oral surgeons have complete training after dental school similar to that of physicians and can assess their own patients. The joint commission on accreditation of hospitals has determined that oral surgeons are qualified to perform admission histories and physicals for oral and maxilla facial surgery. Clarification of interpretation of departments regulations is needed. He presented members of the Montana Dental Association. (Exhibit 1)

JOHN W. LOHMAN, DDS, secretary-treasurer and director of the Montana Dental Association, support SB305 and recommend its passage. He said that oral surgeons have advanced education and training to enable them to take histories and perform physical exams for their patients. Granting staff privilege is reserved to local hospital administrators. This does not impact on other hospital or insurance physicals. (Exhibit 2)

DR. STEVEN BLACK, an oral surgeon from Bozeman, testified in support of SB305.

DAVID LACKMAN, lobbyist for the Montana Medical Public Health Association, discussed the dental education as being well grounded in the medical sciences and are qualified to give their own admission services. He said they are responsible for followup of their cases and should have complete

knowledge of the patients medical history. He recommended passing SB305. (Exhibit 3)

BILL LEARY, representing the Montana Hospital Association, requested concurrence for SB305.

OPPONENTS: There were no opponents.

SEN. ECK closed on SB305. She noted that the statement of intent was questioned but that the federal regulations are ambiguous and there is a possibility that the department will have to clarify their intent through regulations.

QUESTIONS FROM THE COMMITTEE:

REP. CODY asked Roger Tippy about the statement of intent why the federal regulations were ambiguous. Roger Tippy replied that the regulations were lengthy and needed clarification.

REP. SIMON questioned Sen. Eck concerning the emerging of dental specialties and if this was sufficient for the Board of Dentistry to address. Sen. Eck replied that there are oral surgeons that specialize in pediatrics. She agreed that this might be unclear.

ROGER TIPPY answered that the statement of intent and addressed various specialities. He said the Board of Dentistry may elect to recognize these without legislation. This relates to adding an extension of authority to the dental practice act. He said the statement of intent did not need further amendment because it could implement more general powers to regulate dentistry.

REP. SIMON said he did not see any speciality mentioned in the bill and this could not be construed in the bill to have that person to take histories even given a statement of intent.

ROGER TIPPY said that the statement of intent is not the law but the scope definition of the practice of dentistry needed to be codified. The other option to address this problem by legislation is asking the Board of Dentistry to adopt a rule on the subject but legislation is preferable.

CONSIDERATION OF SENATE BILL 170:

SEN. TOM RASMUSSEN, from Helena, said that Senate Bill 170 would allow an optometrist to administer or prescribe drugs to treat eye diseases. He referenced Page 4 of the bill on the optometry law, Line 6 that includes administration, dispensation, and prescription of drugs used for occular

treatment. Line 9 continues the language that an optometrist is not prohibited from removing a foreign body from the eye. However, if the foreign body penetrates into the eye it would be cause for referral to an eye surgeon. Page 3, line 18, says in current law optometry does not perform surgery and this bill does not change that. At the bottom of Page 5, the educational requirements are noted. He presented an amendment to the committee (Exhibit 4 Page 4, Line 7, he proposed to insert the word "topical" to drugs. After drugs, the language "and oral antibiotics". He said this would clarify the bill.

PROPONENTS:

LARRY BONDERUD, a practicing optometrist at Shelby, Indian Health Service Hospital clinic at Browning and appointed to serve by the governor on the Montana State Health Services Coordinating Council and presently serve as president of the Montana Optometric Association. The proposed change in the Montana optometry law is needed for increased access for the public and cost containment. The bill limits treatment to the front part of the eye and restricts the number and types of medication. He pointed out the need for change because present system patients that have minor conditions are referred to specialists. This is a costly system for Montanans. (Exhibit 5)

BRUCE COHEN, in private optometric practice in Helena, spoke in favor of SB170. He said that optometric education has expanded beyond the framework of current state law. Optometrists are asking to be allowed to provide expanded services that are consistent with the current scope of training and education. He pointed out that optometric education included 156 hours of pharmacology that was equal to or greater than all other health care professions that presently use therapeutic drugs.

BILL SIMONS, optometrist from Helena, testified in support of SB170. He compared other professions using therapeutic drugs to optometrists. He said pharmacology curriculum was similar with emphasis placed on aspects which the speciality demands. He pointed out that few of the patients seen actually have eye disease. He compared the optometrists with general physicians relating to the treatment and management of eye disease. He said many more direct eye care patients are seen by optometrists than physicians. More are treated by physicians who have limited background in eye disease management. Because of optometrists intense study in eye disease, drug education, and proper instrumentation, of which the general practitioner has very little, it is clear that optometric education and competency are

more extensive than the general physician in the area of diagnosis and treating eye disease.

DOUG MCBRIDE, a practicing optometrist in Billings, said that documented facts in states where optometrists use therapeutic drugs show responsible and speedy service in eye examination and treatment by extending the qualification and capacities and privileges of optometrists to prescribe lens more efficiently and treat for minor and common infections and provide for more prompt referrals to skilled ophthalmologists. He pointed out that carriers for malpractice insurance had no increase in rates and had found no problems in the use of therapeutic and diagnostic drugs.

PAUL KAPP, a practicing optometrist from Great Falls and current president of the State Board of Optometry, testified in support of SB170. He said the board would guarantee that Montana optometrists would meet the national standards in education. He pointed out extensive hands-on clinical training under direct medical supervision would take place before any drug certification is granted by the Board of Optometry.

DICK BOND, a practicing optometrist from White Rock, New Mexico, distributed a letter from an ophthalmologist (Exhibit 6). He said that the law in New Mexico has allowed to provide speedier treatment of eye diseases by optometrists using sophisticated equipment.

OPPONENTS:

STEVE BROWN, a practicing attorney representing the Montana Academy of Optomology, distributed information to the committee. (Exhibit 7) His concern was the types of drugs prescribed by optometrists. He referred to a memorandum from Karen Renne addressing the problem. (Exhibit 8) He said that no definition was made to occular treatment or disease was added to SB170. He questioned whether optometrists received adequate training and experience to be able to treat eye diseases and that was a public health decision not an accessibility decision.

DR. TOM NORRIS, family physician in Helena and legislative co-chairman for Montana Medical Association, said the bill would authorize optometrists to prescribe any drug for occular treatment. He pointed out that physicians are well trained in treatment of eye disease and used to working with the optometrists. They also have thorough training in pharmacology and the knowledge to continue prescribing drugs that the optometrists may not.

JIM GOOD, an ophthalmologists from Billings and president of Montana Academy of Ophthalmology, testified in opposition to SB170. He said there was potential problems with the use of topical medication. He distributed reports on reactions that have occurred in patients (Exhibit 9). He described the treatment and long-term management of glaucoma management.

BOB STAMPER, an ophthalmologist from San Francisco, commented on the therapeutic use medication by optometrists. He spoke about his qualifications as chairman and director of Optomology training program. He stated that based on his experience and observations, he opposed allowing optometrists to prescribe drug therapy for occular conditions. He said they do not receive adequate education and training to property diagnose and manage occular diseases. He also pointed out that optometrists knowledge of pharmacology is superficial. (Exhibit 10)

DICK BAGLEY, ophthalmologist from Missoula and on the Board of Medical Examiners, discussed the welfare of the people of Montana. He said optometrists are not qualified to treat glaucoma.

JERRY COHEN, an insurance agent and member of Board of Medical Examiners, testified in opposition to SB170. He said the Board of Optometrists is a non-medical board and the training is not adequate for the prescription of drugs. More time on clinical training would be needed. (Exhibit 11)

KEN YOUNGER, an ophthalmologist from Bozeman, testified against SB170. He spoke about the use of eye drops and diagnostic drugs. He discussed the difference between medical practitioners and non-medical practitioners when seeking advise about an eye problem.

STAN BAMBAUER, president of the Montana Society of Opticians, testified against the bill.

SEN. TOM RASMUSSEN closed on the bill. He summarized that the bill would save consumers time and money. He said that physicians do not have the equipment that optometrists do for eyes.

QUESTIONS FROM THE COMMITTEE:

REP. SIMON questioned the length of time for training of optometrists. Sen. Rasmussen replied that the pre-medical pre-optometric requirements had to be finished first. Rep. Simon asked about the use of therapeutic drugs and the different language for qualifications.

DR. AL COUCH, an optometrist from Billings and member of the Board of Optometrists, discussed the educational requirements and the testing sequence.

REP. SIMON asked about the possibility of inserting language that the drugs would have to be approved by the board.

REP. GRINDE asked Dr. Good about the types of drugs that optometrists could now use. Dr. Good replied that miotics could be used on an emergency treatment.

REP. RUSSELL asked Larry Bonderud about treating eye disease and prescribing drugs. He replied that he worked on a federal institution and that the Indian Public Health Service allowed optometrists to use therapeutic drugs and medications. He said it was a common practice for government facilities in the state including the armed forces. Rep. Russell questioned the perspective on glaucoma. Larry Bonderud replied that the right equipment was necessary in order to approach glaucoma including the proper education to know the systemic side affects.

REP. SQUIRES about glaucoma and which part of the eye was involved. Sen. Rasmussen discussed the effects of glaucoma and the parts of the eye. He said that he would refer some cases to specialists when necessary.

MR. STAN DUNBAR, president of the Montana Society of Dispensing Opticians from Bozeman, spoke about his concern that the optometrists were expanding their sphere of practice at the expense of the associated eye care professionals.

LARRY BONDERUD clarified the definition of drugs in the bill.

DR. YOUNGER discussed the insurance companies that doubled their rate.

REP. SANDS asked about the importance in being able to treat glaucoma. Doug Mcbride replied that it was important in being a primary care provider, but there would be some optometrists that would choose not to treat it. He pointed out that there was no difference in the education when comparing medical and optometric training of pharmacology.

REP. SANDS asked about the clinical training in treating glaucoma. Doug Mcbride replied that in Chicago he was required twice a week to be in a clinical setting with an ophthalmologist.

ADJOURNMENT: There being no further business the meeting was adjourned at 3:00 p.m.

R. BUDD GOULD, CHAIRMAN

3-12hs

DAILY ROLL CALL

HUMAN SERVICES AND AGING COMMITTEE

50th LEGISLATIVE SESSION -- 1987

Date MARCH 12, 1987

NAME	PRESENT	ABSENT	EXCUSED
REP. BUDD GOULD, CHAIRMAN	X		
REP. BOB GILBERT, VICE CHAIRMAN	X		
REP. JAN BROWN	X		
REP DUANE COMPTON	X		
REP. DOROTHY CODY	X		
REP. DICK CORNE'	X		
REP. LARRY GRINDE	X		
REP. STELLA JEAN HANSEN			X
REP. LES KITSELMAN	X		
REP. LLOYD MC CORMICK	X		
REP. RICHARD NELSON	X		
REP. JOHN PATTERSON	X		
REP. ANGELA RUSSELL	X		
REP. JACK SANDS	X		
REP. BRUCE SIMON	X		
REP. CAROLYN SQUIRES	X		
REP. TONIA STRATFORD	X		
REP. BILL STRIZICH	X		

STANDING COMMITTEE REPORT

MARCH 12, 19 87

Mr. Speaker: We, the committee on HUMAN SERVICES AND AGING

report [redacted] BILL NO. 176

☐ do pass ☒ be concurred in ☒ as amended
☐ do not pass ☐ be not concurred in ☐ statement of intent attached

REP. R. BUDD GOULD, Chairman

ENABLING NURSE SPECIALISTS TO RECEIVE THIRD-PARTY REIMBURSEMENTS

1. Page 1, lines 20 through 22.
Strike: "; and" on line 20 through "37-8-202(5)" on line 22.

2. Page 2.
Following: line 17
Insert: "(K) nursing services provided by nurse practitioners, nurse-midwives, and nurse-anesthetists as permitted by federal and state law;"
Renumber: subsequent subsection

REP. BRADLEY WILL CARRY THE BILL IN THE HOUSE OF REPRESENTATIVES

THIRD BLUE

_____ reading copy (_____)
color

STANDING COMMITTEE REPORT

MARCH 12, 1987

Mr. Speaker: We [redacted]mittee on HUMAN SERVICES AND AGING

report [redacted] NO. 135

☐ do pass
☐ do not pass

XX ☐ be concurred in
☐ be not concurred in

☐ as amended
☐ statement of intent attached

REP. R. BUDD GOULD, Chairman

ESTABLISHING OFFICE OF LONG-TERM CARE OMBUDSMAN

REP. MILES WILL CARRY THE BILL IN THE HOUSE OF REPRESENTATIVES

THIRD reading copy (BLUE color)

STANDING COMMITTEE REPORT

MARCH 17, 19 87

Mr. Speaker: We, the committee on HUMAN SERVICES AND AGING

report [redacted] BILL NO. 305

☐ do pass
☐ do not pass

☒ be concurred in
☐ be not concurred in

☐ as amended
☐ statement of intent attached

REP. R. BUDD GOULD, Chairman

ALLOW QUALIFIED DENTISTS TO PERFORM PHYSICAL EXAMS ON HOSPITAL ADMISSIONS

REP. CORNE' WILL CARRY THIS BILL IN THE HOUSE OF REPRESENTATIVES

THIRD reading copy (BLUE color)

EXHIBIT
DATE 3-9-87
HB # 305

WITNESS STATEMENT

NAME Kristin Heimburg BILL NO. SB 305

ADDRESS 4 Deborah Ct., Helena, MT DATE 3-09-87

WHOM DO YOU REPRESENT? Montana Dental Association

SUPPORT X OPPOSE _____ AMEND _____

PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments: SB 305 allows qualified oral surgeons on the medical staff of a hospital to take the histories and physicals of patients they admit to the hospital for oral and maxillofacial surgery.

Presently, upon admitting a patient, an oral surgeon must bring in an attending physician, who is otherwise not involved in the case, to perform the history and physical of the patient. Oral surgeons feel that they have the necessary training and qualifications to assess their own patients.

The Joint Commission on Accreditation of Hospitals, the national body which supervises hospital accreditation in the United States, has determined that oral surgeons by virtue of their training and credentials, are qualified to perform admission histories and physicals of the patients they admit for oral and maxillofacial surgery who are otherwise healthy. Accordingly, the JCAH in its guidelines for hospitals, recognizes granting oral surgeons the privilege of performing the admission histories and physicals of their patients.

The Health and Environmental Sciences Department attorney reviewed the federal regulations which Montana Code adopts, regarding dentists as staff members performing histories and physicals of the patients they admit to the hospital. The attorney concluded that the federal regulations were ambiguous. Therefore, SB 305 needs to become part of the law governing hospital staffing, specifically stating that oral surgeons may be granted the privilege of performing admission histories and physicals.

Montana Dental Association

DATE 3-12-87
HB # 305

P. O. Box 513 Butte, Montana 59703 Phone (406) 782-9333

Constituent: AMERICAN DENTAL ASSOCI

March 12, 1987

TO: Human Services And Aging Committee

FROM: John W. Lohman, D.D.S., Secretary-Treasurer

Dear Mr. Chairman and Committee Members:

I am Dr. John Lohman from Butte. I am Secretary-Treasurer and Director of the Montana Dental Association, the professional association representing 452 members, which is over 95% of the dentists in Montana. We support SB 305 and recommend its passage. Some of the reasons for our support are as follows:

1. Oral surgeons have advanced education and training to enable them to take histories and perform physical exams for their patients.

2. Granting staff privilege is still reserved to the local hospital administrators.

3. The "history and physical" privilege is reserved to oral surgery patients and will not impact on other hospital or insurance physicals.

4. The training of oral surgeons makes them acutely aware of the need to refer patients to medical doctors when special needs and considerations are noted.

5. Allowing oral surgeons to take histories and physicals will save money for patients who otherwise have to call in an M.D. for hospital admittance for oral surgery procedures.

6. Present law is vague and confusing, resulting in varied interpretation, and opens the door to possible liability involvement.

7. SB 305 will clear up the present confusion as recommended by the Joint Commission on Accreditation of Hospitals.

EXHIBIT
DATE 3-12-87
HB # 305

(This sheet to be used by those testifying on a bill)

NAME: DAVID LACKMAN DATE: 3/12/87

ADDRESS: 1400 Winne Avenue , Helena 59601 443-3494

PHONE: 443-3494

REPRESENTING WHOM? Montana Public Health Association

APPEARING ON WHICH PROPOSAL: SB 305 (Dorothy Eck) Allow Qualified Dentists to perform physical exams on hospital admissions. House Human Services Room 312 D 12:30 Wednesday 3/12

DO YOU: SUPPORT? XXXX AMEND? _____ OPPOSE? _____

COMMENT: Today I am testifying as an educator- from experience during the thirties at the Medical School, Univ. of Pennsylvania. Dental students often came to the Medical School for courses. I took some with them; and went to the Dental School as a guest lecturer. They are well grounded in the medical sciences; and are certainly qualified to give their own admission physicals. After all, they are responsible for follow-up of their post-op cases- more the reason why they should have complete knowledge of the patient's medical history.

In WW II, we used dental officers at Camp Hood whenever we had a rush on physicals. They did a complete and thorough job. Later, at Camp Detrick, I worked alongside them in research and developement. There too, they were outstanding.

We surely have no reservations with this bill; and recommend its enactment . THANK YOU DBL

PLEASE LEAVE ANY PREPARED STATEMENTS WITH THE COMMITTEE SECRETARY.

EXHIBIT
DATE
HB

PROPOSED AMENDMENTS TO SENATE BILL 170 SCRSB170.PRO

Requested by Senator Rasmussen
March 12, 1987

1. Title, line 10.
Following: "PRESCRIBE"
Insert: "TOPICAL"
Following: "DRUGS"
Insert: "AND ORAL ANTIBIOTICS"

2. Page 4, line 7.
Following: " of"
Insert: "topical"
Following " drugs"
Insert "and oral antibiotics"

EXHIBIT 4-14
DATE 3-12-87
HB #470

The optometrists have proposed an amendment to page 4, line 2, which would add to "ocular treatment" the phrase "limited to the anterior segment of the eye and adnexa." This appears to restrict the administration, dispensing, and prescription of drugs by optometrists to drugs appropriate for treating diseases that immediately affect the eye. (Note that the definition of "drug" in section 1 of the bill, amending Title 37, chapter 2, does not apply to section 2, which amends Title 37, chapter 10.)

Explain

(3) The bill requires no specific academic preparation or clinical training on the diagnosis, treatment, and management of ocular disease. Section 3 amends the 1977 provision that required a single course on diagnostic drugs by simply adding "and therapeutic" to the catchline.

Section 3 also adds a provision that all new licensees, and all optometrists already licensed and wishing to expand their practice, either take examination on the diagnosis, (1) treatment, and management of ocular disease, given by the "international association of boards of optometry," or take (2) a course and pass an examination on the diagnosis and treatment of ocular disease, given by any accredited institution. In theory, an applicant who had had no college-level coursework on diagnosis and treatment of disease, and no clinical exposure, could pass an exam designed by and for optometrists and thereby qualify for a license to prescribe and administer drugs for the treatment of ocular disease.

must be a graduate of an accredited School which has these courses and clinic.

Bob Gilbert could present

EXHIBIT
DATE 3-12-91
HB 170

MONTANA OPTOMETRIC ASSOCIATION

P. O. BOX 908 HELENA, MONTANA 59624
PHONE (406) 442-1432

SB 170

I. SB 170 does restrict the number and types of medications that an optometrist may use. SB 170 does this by using the language (ocular treatment limited to the anterior segment of the eye and adnexia). This language limits the drugs than an optometrist may use to basically eight different types.

A. Anti-glaucoma
B. Anti-bacterial
C. Anti-viral
D. Anti-fungal
E. Non Steroidal Anti-inflammatory
F. Analgesics
G. Anti-allergic
H. Anti-inflammatory

SB 170 will allow optometrists to treat:

1. Infections in front of the eye caused by A) bacteria, B) virus, C) fungu
2. Inflammations of the front of the eye.
3. Open angle glaucoma.
4. Scratches, abrasions and foreign bodies that do not penetrate the eye.

II. SHOTS OR INJECTIONS

No school or college of optometry instructs optometry students in the use of ocular shots, injections or the use of intravenous drugs. A patient having an eye condition that requires a shot, injection or intravenous drug would be referred to an eye surgeon just as they are presently referred.

Shots, injections or intravenous drug use for the eye are not part of the primary eye care optometrists provide.

III. SB 170 would not allow optometrists to treat cancer of the eye or chronic iritis. These conditions would continue to be referred to the appropriate medical specialt

Please note that nothing in present medical law prevents a general or family physician from treating cancer of the eye. None do because it is beyond the scope of their education and medical practice.

Cancer of the mouth is not treated by a dentist and cancer of the foot is not treated by a podiatrist. Optometrists will not treat cancer of the eye. Each profession knows the limits and scope of their practice. These rules apply to all the professions.

IV. The Board of Optometry is a governmental board appointed by the governor. For ten years the board has diligently monitored Montana optometrists in their use of diagnostic drugs. As you can see by the attached chart, the potential of a serious side effect from the use of the drugs optometrists now use is much greater than from the drugs they are requesting to use in SB 170.

COMPARISON OF OCULAR TRAINING
OPTOMETRIST / GENERAL PHYSICIAN

	OPTOMETRIST	GENERAL MEDICINE
UNDERGRADUATE REQUIREMENTS	92% have 90 semester hr.	Minimum requirement is 90 semester hr.
	All applicants must complete requirements for a bachelor degree before a doctorate in either optometry or medicine is awarded.	
	Most medical, dental and optometry schools have the same minimum course requirements per the University of Wyoming catalog.	
TOTAL PROFESSIONAL SCHOOL HOURS REQUIRED	Minimum 4000	4000 - 6000
PHARMACOLOGY	100+	100+
HOURS OCULAR DISEASE DETECTION / TREATMENT	250 average	12 - 37 average.
DIRECT PATIENT EYE CARE INCLUDING DIAGNOSIS / TREATMENT	1,270	0 - 80 optional
PRESENTLY REQUIRED TO DIAGNOSE EYE CONDITIONS	YES	YES
PRESENTLY ALLOWED TO TREAT COMMON EYE CONDITIONS	NO	YES

We do not argue that ophthalmologists have more training than optometrists. Since a major portion of their scope of practice deals with surgery that would be obvious. We simply note that optometrists have more training and are better equipped to diagnose and treat eye conditions than general physicians who are currently licensed to do so.

Optometrists will continue to refer to ophthalmology for complicated or surgical conditions.

COMPARISON OF SPECIALIZED EQUIPMENT USED FOR OCULAR EXAMINATION

DOCTOR OF OPTOMETRY / GENERAL PRACTITIONER

EQUIPMENT DESCRIPTION	OPTOMETRIC OFFICE	GP OFFICE
Ophthalmoscope: Instrument for viewing the fundus and interior of the eye.	Yes	Yes
Binocular Indirect Ophthalmoscope: Instrument for viewing the fundus and interior of the eye allowing for stereoscopic view through a dilated pupil.	Yes	No
Slit Lamp - Biomicroscope: Used to illuminate and examine under magnification the anterior segment of the eye. Allows viewing binocularly the sclera, cornea, iris anterior chamber, lens, and anterior portions of the vitreous and permits the detection of disease in these areas.	Yes	No
Tonometer: Used for measuring the pressure in the eye...Test for glaucoma.		
Applanation tonometer - provides the most reliable measurement of intraocular pressure.	Yes	No
Indentation tonometer - Not as accurate	No	Some
Automated Perimeter: Instrument for measuring the field of vision. Detects detached retinas, tumors, glaucoma, neurological problems.	Most	No

EQUIPMENT DESCRIPTION OR PROCEDURE	OPTOMETRIST OFFICE	GP OFFICE
Exophthalmometer: Instrument for measuring the degree of eye protrusion as in orbital tumors.	Yes	No
Fundus Camera: Provides the ability to photograph the back of the eye to help diagnose eye and document eye diseases and general health problems such as high blood pressure and diabetes.	Some	No
Gonioscope: Instrument used with a slit lamp to examine the interior chamber of the eye to aid in diagnosis of glaucoma.	Yes	No
Laboratory Tests: Taking of conjunctival smears and cultures to determine causative agents or inflammations.	Yes	Yes
Phoropter: Used to determine if reduced visual acuity is due to refractive error or disease affecting vision.	Yes	No

TO TOPICALLY APPLIED OCULAR PHARMACEUTICALS

AGENTS	SERIOUS	MODERATE	MILD
ANTI-GLAUCOMA	Timoptic (Beta Blockers)	Epinephrine Propine	
MIOTICS Anti-Glaucoma	*Pilocarpine		
MYDRIATICS	*Phenylephrine		
CYCLOPLEGIC	*Atropine		
TOPICAL ANESTHETICS	*Opthaine		
TOPICAL Corticosteriods			Prednisone
ANTIVIRAL			Vira - A
ANTIALLERGIC			Opticrom 4 %
ANTIFUNGAL			Natacyn
ANTIBIOTICS			Garamycin**
SULFANOMIDES			Sulamyd

*Present diagnostic agents used by Optometrists

**Only one of the ocular antibiotics has serious side effects. Ten cases of major adverse hematological events have been reported with ocular Chloramphenicol after prolonged use. This drug is utilized very little.

Typical medications used - not limited to these agents only but representative of the class of Drugs.

Source : Physician's Desk Reference, 1987
Fact and Comparrison of Pharmaceuticals, 1987

JOHN D. GUNDZIK, M.D.
PROFESSIONAL ASSOCIATION
OPHTHALMOLOGY

EXHIBIT # 6
DATE 3-12-87
HB # 170

March 10, 1987

Dear Montana Legislator:

I am currently a practicing ophthalmologist in Santa Fe, New Mexico and have been practicing ophthalmology here for over 21 years.

Since June of 1985 the optometrists of New Mexico have been treating eye disease. I have not seen nor heard of any abuse or misuse of any therapeutic medications by the optometrists of New Mexico. What I have noted in Taos, Espanola, and Las Vegas (three small towns where I have branch offices) is excellent treatment of eye diseases by the local optometrists. There certainly is no lack of clinical experience as many of these optometrists have correctly diagnosed and then aided in the management of these patients for years.

Most optometrists are very conservative in their use of steroids as well as beta-blocking agents, and often consult with other optometrists or ophthalmologists before and during the course of treatment. The optometrists are very knowledgeable of the problems using beta-blockers, with heart problems and asthmatic patients, and simply do not prescribe beta-blockers for these patients. The ophthalmologists of New Mexico have to admit that the optometrists are very competent in making proper diagnoses, and are very careful with treatment regimens.

Best regards,

John D. Gundzik, M.D.

JDG:acg

323 EAST PALACE AVENUE, SANTA FE, NEW MEXICO 87501 (505) 982-3669

EXHIBIT # 7
DATE 3-12-
HB # 170

Therapeutic Eye Care in Montana

The Montana Academy of Ophthalmology

The Montana Medical Association

In virtually every legislative session, optometrists in Montana have proposed some sort of legislation. This year is no exception. Senator Tom Rassmussen, an optometrist, has introduced Bill #170, which would allow optometrists to use drugs for therapy of the eye. We oppose the expansion of optometric practice in this way because optometrists are not qualified to safely perform such services, the proposed "educational courses" designed to teach the necessary skills are vastly inadequate, and expanding optometry into therapy would lead to increased costs to the public.

About Eye Doctors. There are two kinds of "eye doctors," optometrists and ophthalmologists. Here's how they differ:

An **optometrist (O.D.)** is licensed by the Board of Optometry and specializes in determining the need for glasses to restore or improve vision, as well as selling glasses to clients. Optometrists treat vision disturbances with glasses and contact lenses and may also prescribe exercises for muscle imbalances. Optometrists are not Medical Doctors.

An **Ophthalmologist (M.D.)** is licensed by the Board of Medical Examiners to practice medicine and surgery and specializes in all aspects of eye and vision care. The ophthalmologist uses and prescribes medicines, glasses, contact lenses, and performs surgery. Ophthalmologists are Medical Doctors.

It is important to realize that **the difference in educational background and experience between these two types of doctors is enormous.**

	Optometrist,O.D.	Ophthalmologist,M.D.
college:	2-4 years	4 years
Optom. school:	4 years	--
Medical school:	--	4 years
Internship:	0	1 year (in-hospital intensive general medical training)
Residency:	0	3-4 years (specialty training in eye disease and surgery)

During training, an optometrist performs 350-800 examinations, 95% of which are on patients <u>without disease</u>. An ophthalmologist performs 3,000 to 8,000 examinaions, 90% of which are on patients <u>with eye disease</u>.

The case against optometric therapy. Besides lack of education and experience, there are other important reasons to oppose such legislation.

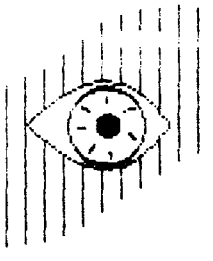
1.) It isn't necessary. In Montana, there is one ophthalmologist per 19,000 people; the recognized average need is one per 25,000. There is an ophthalomolgist in every major Montana city, and few patients are farther than an hour's drive from an ophthalmologist's service. General Medical Doctors routinely prescribe therapy for the eye and are available to all Montanans. There is absolutely no demonstrated deficiency in delivery of therapeutic eye care in Montana, and absolutely no need to expand this privilege to optometrists.

2.) Safety to the public. The possible consequences of erroneous treatment of eye disorders include pain, vision loss, and blindness. In 1985, the Consumer Affairs Committee of the Pennsylvania House of Representatives was "not convinced that even optometrists who have recently attended an optometric college have received sufficient education to be authhorized to use therapeutic drugs solely at their discretion. Neither is the Committee convinced that such an authorization would not have an adverse impact upon the health and safety of eye care patients. . ."

The proposed legislation would enable optometrists to prescribe oral and intravenous antibiotics, cortisone, narcotic pain killers, and cancer chemotherapy. Such practice woud be unwise and unsafe.

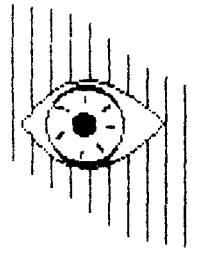
3.) Costs. Every legislator is acutely aware of the importance of the "bottom line". Eye care provided by optometrists is not cheaper! Surveys have found that optometrists generated almost twice as many lens prescriptions from the same number of patients examined by ophthalmologists. Total average payout per patient is greater when patients are seen by optometrists. Will optometrists hold down their fees while taking on increased duties and responsibilities of providing therapy? New exposure by optometrists to malpractice litigation will further increase optometric charges as the cost of increased malpractice coverage is passed on to the public. State Farm Insurance no longer writes malpractice insurance to optometrists in any state where they use therapeutic drugs. The costs of delayed or improper therapy are immeasurable.

There are no short cuts to the provision of safe, quality eye care. A legislator would not consider extending the privilege of flying a 747 to a private pilot just because he or she has obtained additional classroom instruction. Do not extend therapeutic drug use to optometrists. The people of Montana do not need non-medical practitioners prescribing drugs for eye care.



Montana Academy of Ophthalmology

Montana Medical Association



EDUCATIONAL DIFFERENCES BETWEEN

	OPTOMETRY	OPHTHALMOLOGY
I.	CLINIC HOURS SPENT	CLINIC HOURS SPENT
A.	# of examinations average 350 refractions (1) to 800	3000 to 9000 examinations (with greater than 1500 refractions (2)
B.	% of patients seen with pathology approximately 4% (3)	Approximately 90% (4)
C.	Hours of pharmacology lectures (5) 90 to 200 in optometry school	80 to 200 in medical school
D.	Hours of supervised clinical application in the use of medications in the treatment of general disease	
	0 Hours	3240 (6)
E.	Hours of ocular pharmacology with supervised clinical training in treating eye disease	
	0 Hours	5250 Hours
F.	Minimum national standard for examinations performed prior to completion of program	3000 exams (8) with more than 50% including refractions as required by the council on graduate medical education of AMA
	The Council on Optometric Education of the American Optometric Association has no minimum standards. Each school independently sets its own standard. (7)	
II.	ADMISSIONS STANDARDS	
A.	Minimum education for admission (9)	4 years of college
	2 years of college (although most applicants have more)	
	0	Medical School Mandatory
	0	Internship Mandatory

B. Competition for training spaces

3.0 to 3.4 applications per opening (10)	Average 87 applications per opening (11)

III. EDUCATIONAL EMPHASIS

In order to determine the point of view of the two professions, I have divided the courses listed in the optometric school catalogues into two types: "Organic - those involved with the study of the eye's anatomy, physiology, pathology, and pharmacology (in essence, those involved with the study of the eye from a point of view of medical treatment).

"Non-organic" those courses involved with the study of the eye's optical properties, geometric optics, physiologic optics and contact lenses; and those peripherally involved courses such as jurisprudence, practice management (those not related to medical treatment).

From the 11 catalogues I was sent by optometry schools, I tabulated a total of 200 courses in all of these schools related to "organic" subjects and 416 related to "non-organic" subjects.

In other words, less than 50% of the courses taught in optometry school have anything to do with the eye as a part of the body.

Most of the instruction given in optometry schools - 68% - involves Theoretical Optics, geometric optics, ophthalmic optics, contact lenses, Behavioral vision, psychophysiology of vision, practice management, jurisprudence, etc.

Of those "organic" courses, very few have anything to do with actual diagnosis of eye disease, only 14.5% are listed courses involved with diagnosis of eye diseases, an average of 8.9 courses over 4 years and only 7 schools even list in their catalogue courses which have anything to do with therapeutics.

On the other hand, the core of knowledge which is basic to ophthalmology is contained in a series of books titled Ophthalmology Basic and Clinical Science Course. This course is produced by the American Academy of Ophthalmology. This course consists of a total of 1858 pages. Of this total, only 169 pages are related to "Optics and Refraction" - approximately 9%. More than 90% of the training of the ophthalmologist is involved with glaucoma, neuro-ophthalmology, retina-vitreous and other diseases of the eye. These courses are aimed not as a brief overview of eye disease states but as the basis for diagnosing and treating potentially blinding diseases.

IV. TYPICAL OPTOMETRY LECTURE HOURS DEVOTED TO EYE DISEASE

At the Southern California College of Optometry, the course curriculum for eye diseases is 3 hours per week for 11 weeks for 3 quarters. Only 2 hours of the 3 hours are taught by an ophthalmologist. This course is the sum total of formal lectures on eye disease for the entire optometry curriculum. It is superficial in nature and only an overview. Example: Even the subject of glaucoma which is extremely complex is taught for 5 to 6 hours total. (13) This is a disease which ophthalmologists study intensively during their 3 year residencies and some even devote another full year of fellowship training to become expert. Glaucoma still present and in the United States alone accounts for 5400 new cases of blindness each year. (14)

V. PRIMARY EYECARE PROVIDER OR THE FAMILY PRACTITIONER OF THE EYE

To call the optometrist the primary eyecare provider is simply to ignore the fact that the ophthalmologist is the only trained and licensed professional who is able to treat all refractive-optical problems and disease or surgical problems of the eye.

The general ophthalmologist is the primary eyecare provider.

There are at least 7 subspecialty areas in ophthalmology (12) which require at least one year of further training.

The optometrist is a limited care provider with expertise in optics and optical problems of the eye. He is able to recognize disease states of the eye but not completely diagnose them and not treat them.

FOOTNOTES

1. Southern California College of Optometry Accreditation Self Study 1979-1983. Published 12/83. Also Penn. State College of Optometry catalogue.

2. Interviews with residents in training at Hollywood Presbyterian Medical Center and the University of Southern California Medical School. The Association of Graduate Medical Education Handbook Section on Essentials of Accredited Residencies.

3. At the Optometric Center of Fullerton, the largest campus of the Southern California College of Optometry (SCCO) total number of visits by patients in 1982, #37,653 and the total number seen for pathology were #1512.
At the Ohio State University College of Optometry 1.6% of patients are seen for "disease detection".

4. Interviews with clinic director at Hollywood Presbyterian Medical Center and Junior and Senior Resident Physicians at the HPMC and University of Southern California.

5. Various Optometry catalogues and previous testimony in other states.

6. University of Louisville Department of Ophthalmology; other programs are comparable.

7. Telephone conversation with Sally Bowers of the Council on Optometric Education of the American Optometric Association September 1985.

8. Handbook of the Association of Graduate Medical Education Essestials of Accredited Residencies.

9. Various Optometry catalogues. Ex. 1985 Pennsylvania College of Optometry 71% had at least Bachelors degree of Class of 1987, 29% had not completed Baccalaureate Studies.

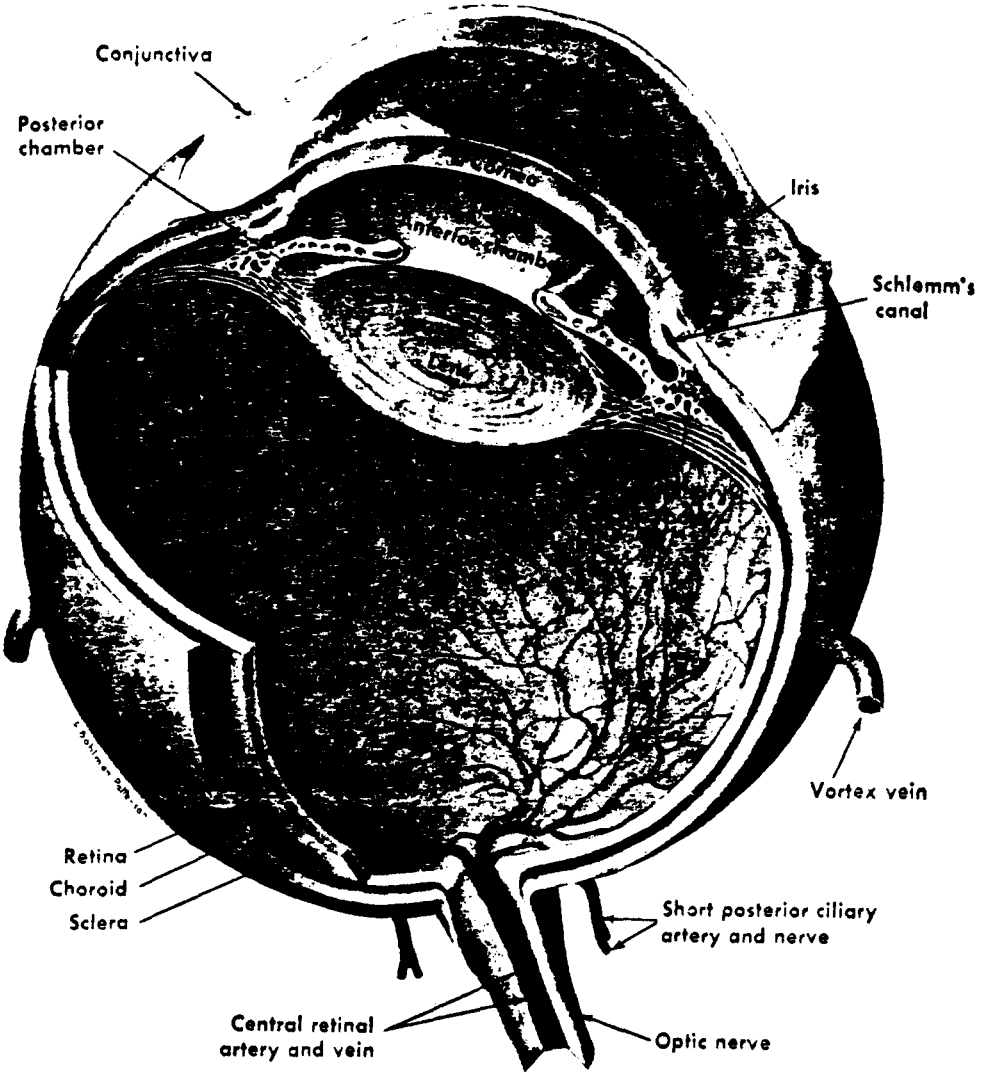
10. University of California, School of Optometry at Berkeley catalogue. Conversation with Southern California College of Optometry office of Admissions.

11. Conversations with Physicians involved with interviewing residents at the University of Southern California, HPMC, White Memorial Medical Center in Los Angeles and the Jules Stein Eye Institute UCLA and the University of California, Irvine.

12. Retina-vitreous, pediatric ophthalmology, ophthalmic plastic surgery, glaucoma, ophthalmic pathology, cornea, neuro-ophthalmology.

13. Interview with William Gaffney - Ophthalmologist in charge of eye disease course at Southern California College of Optometry.

14. National Society to Prevent Blindness, 1985. "Facts and Figures"



The human eye

EXHIBIT 8
DATE 3-12-87
SB 170

January 30, 1987

MEMORANDUM:

TO: Senate Committee on Public Health, Welfare, and Safety

FROM: Karen Renne, staff researcher

SUBJECT: Senate Bill 170 (expanding optometrists' scope of practice)

This memo addresses three issues that emerged during the hearing on January 26:

(1) the amendment of 37-2-101 in which optometrists are defined as medical practitioners;

(2) the implications of expanding optometrists' scope of practice to include diagnosis and treatment of disease;

(3) the educational requirements that accompany this expanded scope of practice.

(1) Senator Himsl's concern about the consequences of defining optometrists as medical practitioners appears to be unfounded. Optometrists already appear in the insurance code as medical professionals (33-19-104) and health service providers (33-22-111), and in the medicare statute as providers of medical care (53-6-101), though medicaid coverage of their services is not mandatory.

What this definition does do is allow optometrists to "administer and prescribe" drugs, along with physicians, dentists, and podiatrists. Optometrists were allowed to use drugs for diagnostic purposes in 1977 and should have been included in 37-2-101 at that time. The definition applies only to part 1 of chapter 2 in Title 37. Most of that part consists of restrictions on medical practitioners, who cannot own or have an interest in a pharmacy, or dispense drugs.

(2) "Ocular disease" and "ocular treatment" are not defined in this bill, but they should be. Under this bill, optometrists could legally treat any disease that could or might affect the eye, and prescribe any drug effective for any disease.

Actions:
These anticholinergic agents block the responses of the sphincter muscle of the iris and the muscle of the ciliary body to cholinergic stimulation, producing pupillary dilation (mydriasis) and paralysis of accommodation (cycloplegia).

A summary of the peak and duration of these actions is presented in the table below:

Drug	Page	Mydriasis		Cycloplegia		Solution Available (%)
		Peak (minutes)	Recovery (days)	Peak (minutes)	Recovery (days)	
Atropine	487	30-40	7-12	60-180	6-12	0.5-3
Homatropine	487	40-60	1-3	30-60	1-3	2-5
Scopolamine	487	20-30	3-7	30-60	3-7	0.25
Cyclopentolate	487a	30-60	1	25-75	0.25-1	0.5-2
Tropicamide	487a	20-40	0.25	20-35	0.25	0.5-1

Indications:
For cycloplegic refraction and for dilating the pupil in inflammatory conditions of the iris and uveal tract.

Contraindications:
Glaucoma or a tendency toward glaucoma (e.g., narrow anterior chamber angle); hypersensitivity to belladonna alkaloids or any component.

Warnings:
For topical ophthalmic use only.

Determine the intraocular tension and the depth of the anterior chamber before and during use to avoid glaucoma attacks.

Do not use in glaucoma, in the elderly (where undiagnosed glaucoma may be present) or in children under 6 years of age except under close medical observation.

Do not exceed recommended dosages.

Excessive use in children and in certain susceptible individuals may produce general toxic symptoms.

Usage in Pregnancy: Category C. Safety for use during pregnancy has not been established. Use only if clearly needed and if the potential benefits outweigh the potential hazards to the fetus.

Usage in Lactation: Atropine is absorbed systemically and is detectable, in very small amounts, in human milk. Because of the potential for serious adverse reactions in nursing infants, a decision should be made whether to discontinue nursing or discontinue the drug.

Usage in Children: Do not use atropine during the first three months of life, due to the possible association between the cycloplegia produced and the development of amblyopia. Safety and efficacy for use in children have not been established.

Cyclopentolate may cause CNS disturbances. This is especially true in younger age groups, but may occur at any age with the stronger solutions. Premature and small infants are particularly prone to CNS and cardiopulmonary effects from systemic absorption. Do not use concentrations higher than 0.5% in very young infants.

Precautions:
Use with care in patients with a narrow anterior chamber angle, in infants and children, in the elderly, and in hypertensive, hyperthyroid and diabetic patients. Discontinue use if signs of sensitivity develop. These drugs may cause an increase in intraocular pressure in the normal eye.

Potentially hazardous tasks: Advise patients not to drive or engage in other hazardous activity while pupils are dilated.

(Continued on following page)

Adverse Reactions:
Local: Increased intraocular pressure; transient stinging. Prolonged use may produce local irritation characterized by allergic lid reactions, hyperemia, follicular conjunctivitis, vascular congestion, edema, exudate, photophobia with or without corneal staining, and an eczematoid dermatitis.

Systemic: Systemic atropine toxicity is manifested by: Flushing and dryness of the skin (a rash may be present in children); blurred vision; dryness of the mouth and nose; anhidrosis; a rapid and irregular pulse; fever; abdominal distention in infants; bladder distention; dysarthric quality of speech; mental aberration (hallucinosis) with recovery frequently followed by retrograde amnesia; and loss of neuromuscular coordination (ataxic gait). Severe reactions are manifested by hypotension with progressive respiratory depression. Coma and death have been reported in the very young.

Headache, parasympathetic stimulation, allergic reactions, and somnolence may occur. Other toxic manifestations of anticholinergic drugs are vasodilation, urinary retention and diminished GI motility.

In addition, use of cyclopentolate and tropicamide has been associated with psychotic reactions and behavioral disturbances in children. Cardiorespiratory collapse in children has occurred with tropicamide. Ataxia, incoherent speech, restlessness, hallucinations, hyperactivity, seizures, disorientation as to time and place, and failure to recognize people have been reported with cyclopentolate.

Patient Information:
Lie down or tilt head backward and look at ceiling, hold dropper above eye, drop medicine inside lower lid while looking up; do not touch dropper to eye, fingers or any surface.

Release lower lid. Keep eye open and do not blink for at least 30 seconds. Apply gentle pressure to the bridge of the nose (inside corner of the eye) for about one minute.

Before use of other eye drops, wait at least five minutes.

After instillation, do not close eyes tightly and try not to blink more often than usual.

May cause blurred vision and increased sensitivity to light.

If eye pain occurs, discontinue use and consult physician immediately.

Refer to page 477b for more complete information.

Overdosage:
When symptoms of atropine toxicity develop (see Adverse Reactions), administer parenteral physostigmine. In infants and children, keep body surface moist.

(Products listed on following pages)

THESE ARE AN EXAMPLE OF SOME OF THE DRUGS THAT OPTOMETRISTS HAVE BEEN CERTIFIED TO USE FOR THE PAST 10 YEARS. THEY WERE EDUCATED AND TRAINED IN THEIR USE AND OPTOMETRISTS ARE TRAINED AND EDUCATED IN THE USE OF THE DRUGS THEY ARE REQUESTING NOW.

EXHIBIT # 1C
DATE 3-12-87
B #

ON THE USE OF THERAPEUTIC DRUGS BY OPTOMETRISTS

by

Robert L. Stamper, M.D.
Chairman & Director of Residency Training,
Department of Ophthalmology
Pacific Presbyterian Medical Center*[1]
San Francisco, CA

Formerly - Associate Clinical Professor,
University of California School of Optometry*
Berkeley, CA

My name is Robert L. Stamper. I received my undergraduate degree from Cornell University and my M.D. degree from the State University of New York, Downstate Medical Center. My internship was at Mt. Sinai Medical Center in New York City. I completed a three year residency and then an additional year of fellowship training in ophthalmology at Washington University School of Medicine in St. Louis. Since 1972, I have been associated with the Department of Ophthalmology at Pacific Presbyterian Medical Center, a major, voluntary full-service medical center in San Francisco. I have been the director of the medical center's residency training program for ophthalmologists for over ten years and have recently been appointed as chairman of the department. I have served in a variety of elected and appointed positions for several national ophthalmic organizations, have performed ophthalmic research, and have contributed to the scientific literature in my field.

In addition, starting in 1974, I had the pleasure and privilege of teaching at one of the few university-associated schools of optometry in the United States. This school is thought to be one of the best, if not the best, optometric schools in the country. I held the academic rank of Associate Clinical Professor. My responsibilities brought me into close contact in a clinic setting with optometry students in their last (fourth) year of training. In 1985, I was asked to resign my teaching position following my testimony before another state legislature against the use of therapeutic drugs by optometrists; this request for my resignation was allegedly because of a "national furor" on the part of state Optometric Associations.

In addition to my 16 years as an ophthalmic educator, 10 years in the education of optometric students, and experience as a speaker at optometric continuing education programs, I have also been involved in multiple conversations and professional interactions with optometric educators and practicing optometrists. I feel that my experience in both ophthalmic and optometric education makes me uniquely qualified to comment on the issue of whether or not optometrists should be empowered to prescribe pharmaceutical agents to treat eye diseases and disorders.

Based on all my experience and observations, I strongly oppose allowing optometrists to prescribe drug therapy for ocular conditions because they do

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* [1]Views expressed herein are those of the author and do not necessarily represent those of the institutions named.

not receive adequate education and training to properly diagnose and manage ocular diseases, because their education in pharmacology is only superficial, and because the public of this state has no need for such services.

1. Optometrists Not Qualified to Diagnose and Manage Disease

Despite their claims to the contrary, it has been my observation that those optometry students who are concluding their formal training in optometry have little understanding of disease causation or how the disease process interferes with normal physiology, either in the body in general or in the eye specifically. While they can be quite good at detecting that an abnormality does exist, most of them have a great deal of difficulty in deciding what any given abnormality actually means. This difficulty is due in part to the relative infrequency with which each student comes in contact with patients demonstrating ocular abnormalities and in part to their lack of in-depth teaching in pathophysiology (the effect on body systems of disease.) For example, less than 10% of my last graduating class had ever seen an active case of Herpes infection of the eye.

Few of the fourth year students that I taught felt themselves capable of dealing with ophthalmic disease. Even more distressing, many of them did not know what they didn't know. I certainly would not trust any of them to treat members of my family.

A few courses do not a good doctor make. Why do medical schools require so much study, so many courses, all those years and all that practical experience not only in pharmacology but in the whole gamut of normal and abnormal states of the human? Why not just churn out cardiologists or neurosurgeons and forget about having everyone get a thorough background in the whole person? If the process could have been safely shortened by cutting some of the required courses and educational experience, some enterprising medical school either here or abroad would certainly have done so. None have.

Virtually everyone would agree that the physician must consider the "whole" person when deciding how to manage a given disease state. Optometrists are taught very little about the body in which the eye sits. By giving them the ability to prescribe medications, you would be denying the principle that the eye is only one small part of the whole. This would be particularly unfortunate since many systemic diseases may have signs in the eye. Only someone who is trained to consider the patient as a whole can recognize the importance and implications of such signs.

2. Optometrists Knowledge of Pharmacology is Superficial

Some optometrists maintain that they should be allowed to prescribe drugs because they have taken a course in pharmacology and that this makes them qualified to practice medicine. In my opinion, this is an attempt to mislead the legislature as well as the public and accomplish by legislative means what has not been achieved by education and training.

Optometrists do take survey courses on disease states and pharmacology. Many of these courses are taught by people whose own knowledge of the subject comes

from books rather than from practical experience which is critical to the appropriate use of drugs. Educationally, the course they take is only a survey course.(1) Asking to prescribe drugs on the basis of this type of course is like asking to practice psychiatry after taking Psychology 101 in college.

Pharmacology by itself is only one small piece of a large puzzle. To offer a point of comparison, pharmacists take 256 hours of pharmacology, three times the hours of pharmacology teaching optometrists get in the best optometric school in the country. Moreover, the pharmacists have more practical experience with both disease states and the use of medications than do optometrists.(2) Yet, they are not licensed to prescribe drugs. Thus, knowing only pharmacology does not give one the complete perspective needed to factor in the response and reactions of the whole person to a medication and disease. Optometrists do not have a good comprehension of systemic physiology and pharmacology and would be ill-prepared to handle systemic complications that can occur from topical medications.

Eye drops go from the eye into the nose and throat and, therefore, are often absorbed into the body. Because of this, some eyedrops can kill. About 40 deaths have been reported in the United States due to the use of just one of the eye drops commonly used to treat glaucoma. This happened despite administration by fully trained physicians. How many more deaths might there be if you allow inadequately trained individuals to prescribe these potentially dangerous drugs. If one has never seen patients with asthma or other bronchoconstrictive disorders, how is one going to know which individuals are susceptible to a fatal asthma attack when given timolol eyedrops? From a book? No! Only by integrating a careful, selective medical history and the knowledge of the interaction of normal body functions, abnormal functions, drug effects and the effects produced by the presence of other drugs.

The prudent physician does not treat in a vacuum; in determining the best and safest way to treat a patient, the physician must weigh many complex issues, even for topical eye drop therapy. Optometrists do not have the kind of training necessary for this process and are, therefore, <u>not</u> qualified to diagnose definitively or treat patients with ocular disease.

3. There Is No Real Need

An argument frequently made by those optometrists seeking to expand their scope of practice is that they are needed to care for patients without access to an ophthalmologist. This is a specious argument since studies have shown that less than 0.6% of the U.S. population is without convenient access (within 1 hour's drive) to an ophthalmologist.(3)

Even if some small need could be demonstrated, it might be wise to learn from the experiences of Russia and China. Following the revolutions in these two countries, medical care became severely constrained due to the emigration, imprisonment or execution of large numbers of physicians. In Russia, a second class doctor, or "Felcher", who could be trained in one year, came into existence. In China, workers with a similar type of truncated medical education were called "barefoot" doctors. Currently, with enough fully trained physicians being trained, Russia is trying to completely rid the country of Felchers in an

attempt to promote first class medical care everywhere. In China, the "barefoot" doctors have become an embarrassment. Consequently, they are being recalled and put to other work. We should take note of these experiences and not allow those without the proper education and training to function as physicians especially when the need that prompted the Russians and Chinese does not exist in this country.

4. The Public Will Not Benefit

Finally, this legislature might well ask itself, "Who will benefit from allowing less than well trained individuals to play at being physicians?" "Will the public benefit from second class care?"

The pattern of optometry's attempt to expand the scope of practice through legislation rather than training has been well established. Although, optometric lobbyists come back to state legislatures year after year with the same arguments, it is critical to remember the facts - optometrists are <u>not</u> qualified to diagnose or treat ocular diseases. Their education and training do not provide them with the fundamental knowledge or the breadth of skills essential to properly understand how to use medications as therapy or how medications react in the human body.

Whether or not optometrists prescribe drugs is **not** simply a question of "turf" or economic competition. This is a fundamental question of protecting the public's interests in receiving quality health care. Optometrists succeeded in getting the right to prescribe therapeutic drugs in Iowa; their insurance company (State Farm) cancelled their malpractice insurance effective on the day the law took effect. Why did a major insurance company cancel the malpractice insurance of optometrists in an entire state after many years? Because they felt the risk was too great. State Farm had no ax to grind, no turf to protect other than their balance sheet.

5. What Optometry Does Well

Optometry serves the public best in what it is trained to do - measure the visual system, prescribe glasses and contact lenses and screen for disease. Optometrists are not able to definitively diagnose ocular diseases, don't understand the mechanisms of those diseases, and are, therefore, not qualified to use medications to treat them. A few courses does not a fully competent physician make. For the same reason that I do not pretend to be a cardiac surgeon (although I have had some training in that field), they should not pretend to be physicians.

I think it important for optometrists to be able to handle the rudiments of ocular emergency first aid. Optometrists should understand the ocular side effects of some pharmacologic agents in order to manage appropriately the refractive and contact lens problems that may arise during use of these agents. Finally, I believe that optometrists should be able to use a few diagnostic pharmaceutical agents. With these agents, they would be able to screen for ocular abnormalities. However, based on the training and level of competence that I have observed in my interaction with optometric students, faculty and

practitioners, allowing them any wider scope of practice would be a grave disservice to the public.

Thank you for your attention.

REFERENCES:

1. Catalog: University of California, School of Optometry, Berkeley, CA 1984-5

2. Dean's Office, University of the Pacific, School of Pharmacy, Stockton, CA

3. Gamble L, Mash AJ, Burdan T, Ruiz RS, Spivey BE: Ophthalmology (Eye Physician and Surgeon) Manpower Studies for the United States: Part IV: Ophthalmology Manpower Distribution 1983. Ophthalmology, Vol. 90, No. 8, pp 47A-64A. August, 1983.

EXHIBIT
DATE 3-12-87
SB 170

DEPARTMENT OF COMMERCE
BOARD OF MEDICAL EXAMINERS

TED SCHWINDEN, GOVERNOR

1424 9TH AVENUE

STATE OF MONTANA

(406) 444-4284

HELENA, MONTANA 59620-0407

March 12, 1987

MEMBERS OF THE HOUSE OF REPRESENTATIVES:

The Board of Medical Examiners wishes to go on record as opposing SB170 for the following reasons:

1. The Board of Optometrists is a non-medical board and would be supervising the use of prescription drugs with no limitations.
2. The Board of Medical Examiners questions how adequate their training would be for the use of these drugs and the treatment of the eye.
3. The Board of Medical Examiners feels quite strongly that the suggested 100 hours of didactic training is not sufficient training to recognize the pathological conditions of the eye and the effects of the various medications on the pathology of the eye. More time should be spent on clinical training.

If an amendment is passed to place this under the jurisdiction of the Board of Medical Examiners, we think that provisions should be made to provide the funding for the additional cost thus incurred.

EXHIBIT #1
DATE 3-12-87
SB #176

JOSEPH C. TOLAND, M.D.
PROFESSIONAL CORPORATION

5927 N. FIFTH STREET
PHILADELPHIA, PA. 19120

LIVINGSTON 8-2323

1270 MILL ROAD
MEADOWBROOK, PA. 19046

March 4, 1987

Rep. Budd Gould
Chairman
Human Service and Aging Commission
Capital Station
Helena Montana 59620

Dear Representative Gould:

I understand that you are considering a bill which would allow Montana optometrists to use therapeutic pharmaceutical agents in their practices. I have been asked to contact you regarding my support of such a bill based on my direct clinical teaching experiences in both optometric and ophthalmological training programs.

I am a board certified ophthalmologist who has taught in both ophthalmologic and optometric educational institutions. In such a dual capacity, I am best able to compare the clinical exposure in ophthalmologic and optometric teaching clinics.

My sixteen years of joint clinical teaching experiences confirms the fact that ophthalmological training programs concentrate more on advanced medical and surgical cases, while clinical optometric programs provide equal teaching experience in eye disorders and diseases at the primary care level.

Sincerely,

Joseph C. Toland, O.D., M.D.

JCT:eh

cc: Larry Bonderud, O.D.
President, Montana Opt. Assoc.

Pennsylvania College of Optometry
1200 West Godfrey Avenue Philadelphia, Pa. 19141-3399

EXHIBIT F-5
DATE 3-12-87
SB # 170

Center for Continuing and
Post Graduate Educatio
215 276-625

March 6, 1987

Larry Bonderud,O.D., President
Montana Optometric Association
Box G
Shelby, Montana 59474

Dear Dr. Bonderud:

Dr. Louis J. Catania has asked me to write to you regarding optometry's pharmacology education and the risk of drugs used in ocular therapy. I am a recently retired professor of Pharmacology and Toxicology. I have taught pharmacology to medical students at the Jefferson Medical College of Thomas Jefferson University in Philadelphia for 25 years and to optometry students at the Pennsylvania College of Optometry as well as optometric practitioners throughout the country. Since retirement, I have continued teaching to optometry students and to practicing optometrists in continuing education programs.

From my exposure to the men and women of the optometric profession, I know that those who have taken this training in both basic and clinical pharmacy and pharmacology are well qualified to use drugs for therapeutic purposes in the clinical care of eye disease. The students in these courses have been among the most dedicated that I have worked with in my 28 years of teaching.

It is our purpose in these courses to provide programs which will enable the optometrist to use the facts of pharmacology to back up his/her sound professional judgement when he/she uses ocular drugs. We are, of course particularly concerned with presenting a complete discussion of all possible toxicities related to the use of ocular drugs. The student is made aware of the fact that at some dose every drug is capable of exhibiting toxicity. However, he is also taught that by proper selection of drugs with a high margin of safety, he/she can obtain an effective dose of the drug with little or no chance of toxicity.

The student is also made aware of the fact that in a very small proportion of the population an unpredictable response may occur to what would be a safe dose to the majority of the population. Recognition of this allergic hypersensitive or idiosyncratic response and how to deal with it on an emergency basis, is an extensive part of the training that the student receives in this course.

Since I believe that the members of the optometric profession who have received proper training are very well qualified in the use of drugs for therapeutic purposes and that such use will be of considerable benefit to the people of your state, I am happy to be able to provide this information to you.

Sincerely,

Roland W. Manthei

Roland W. Manthei, Ph.D.
Professor of Pharmacology

EXHIBIT
DATE
SB # 170

TESTIMONY ON SENATE BILL 170

THURSDAY, MARCH 12, 1987

Mister Chairman and members of the Committee. I am Paul Kathrein, a practicing optometrist from Great Falls, and current President of the State Board of Optometry.

I am here representing the State Board and to present the position of the Board on Senate Bill 170.

Let me assure you, that Board members are as concerned as you are that if this bill becomes law, the safety and eye health of the people is protected, and that those optometrists who desire to use therapeutic drugs will be thoroughly educated and updated in drug usage, both in the classroom and clinically. They must prove themselves competent by national standards and national testing methods. This Board will guarantee that Montana optometrists will meet those national standards as other optometrists in other states have already done. There will be no grandfathering of currently practicing optometrists.

Ten years ago, the legislature decided that optometrists should be allowed to use drugs for examination and diagnostic purposes. These diagnostic drugs that are currently being used are more toxic systemically than the therapeutic drugs this bill requests.

Drug courses have been developed by colleges and universtiies such as Ohio State, Indiana University, University of California Berkeley, that will provide the necessary education and clinical training. These courses and course contents have been determined by and are taught by university professors, Ph.D's in pharmacology, optometry, and ophthalmology. In some cases the same professors who teach medical and dental students. Extensive hands-on clinical training under direct medical supervision will take place before drug certification will be granted. These courses and testing sequences have been presented in other states that have already updated their optometry laws. It has been proven to produce competently trained post-graduate optometrists.

I want to emphasize the quality of current optometry education. There is an unbiased, outside agency that studies and rates graduate and professional education. This is called the Gourman Report and it is authored by Dr. Jack Gourman, Professor of Political Science at California State University, Northridge. He has been at this process for 25 years. He is the leading international authority on the assessment of higher education. He is a consultant to several major corporations and numerous government agencies on educational issues. The Report was conducted by a team of experts that rate all the professional study programs in the nation. They research over 57 different professional programs and rate them according to administration, curriculum, faculty instruction, faculty research and library resources. They use a 1 to 5 scale for ranking the quality of

education provided with their report listing only those facilities that score 3.Ø or better. With this they further classify the educational standards with rankings from 3.Ø to 3.5 being listed as acceptable, 3.6 to 3.9 being good, 4.Ø to 4.5 being strong and 4.6 to 5.Ø as distinguished.

As examples of how medical schools fared under this ranking, Harvard Medical School ranked first with a score of 4.97, the University of California School of Medicine with a score of 4.5Ø, the University of Washington School of Medicine with a score of 4.34, the University of Colorado School of Medicine with a score of 3.88.

Of the thirteen colleges of optometry in the nation the lowest ranking scored was 4.67. From there the scoring went up to include schools at the University of Houston scoring 4.87, the University of Alabama 4.89, Indiana University 4.92, Ohio State University 4,94, and the University of California at the top with a score of 4.96. In short, every school of optometry in the country scored in the distinguished catagory. This is a most enviable record and it speaks for itself. (I will leave a copy of this report for the chairman.)

You have received letters questioning the integrity and resolve of the Board of Optometry. Those opposed to this legislation have stated that the members of the Board are not interested or concerned about the safety and welfare of the people

of Montana. That is an out-right lie. I feel that this accusation is a direct slap in the face of the Board, of the Governor, who appoints the Board members, and to the Senate, who confirms these appointments. As President of the Board, I take this as a personal attack on my committment to assuring that the people of Montana have access to the best optometric eye care possible and that only highly educated and competent optometrists are licensed and certified in Montana.

To insinuate that I or any other member of the State Board would turn our backs and allow optometrists to provide services in which they are not adequately trained and certified is unthinkable and down right disgusting. If you trust the Medical Board to uphold the laws, and protect the people, and they do, why would you not trust the Optometry Board. The Medical Board does not have a monopoly on honesty and integrity.

Ten years ago, the legislature allowed qualified optometrists to use drugs for examination and diagnostic purposes. The Optometry Board assured the legislators that there would be adequate safeguards and controls on drug usage. In the past ten years there has not been one complaint received by this Board or any other Montana Board concerning mis-use, eye-damage or drug malpractice by a Montana optometrist.

These same safeguards and controls will be instituted by the Board concerning therapeutic drug usage also. The Board will institute specific rules and regulations addressing particular drug

categories. We will not allow the use of injectable drugs, this is not taught as a treatment option in optometry colleges and will not be allowed by this bill or by the Board.

In summary, I have tried to show you that the State Board of Optometry will provide for the necessary education, testing, and clinical training required to ensure that only competent optometrists will be certified to use these drugs.

AND, that Montana optometrists have already proven themselves to be safe users of diagnostic drugs.

AND, that this Board has and will continue to uphold the laws of this state and to protect the citizens of Montana to the best of their ability.

Thank you for your time and attention.

EXHIBIT #15
DATE 3-12-87
SB #170

TESTIMONY ON SENATE BILL 170

THURSDAY, MARCH 12, 1987

Mister Chairman and members of the Committee. My name is Millett Keller. I have practiced optometry in Montana for over 50 years.

From the original optometry act passed in 1910 to the present day our profession has advanced in education and purpose. Yes, the first optometry law had a grandfather clause exempting all those presently employed in the profession from the law. But none since have been exempt. Every change in the law has required competence and education and testing. No jurisdiction in the United States or abroad has ever repealed a diagnostic or therapeutic optometry law. This itself speaks for safety and competence.

From a two-year college course in the early 20's, to an eight-year course now, what a change! Eighty percent of students entering optometry schools today already have a four-year baccalaureate degree. The average graduating optometrist today has had eight years of college level and advanced study.

As an optometrist who has practiced longer than anyone in Montana, I am extremely proud of my profession, and of my own professional advancement.

What has happened in the intervening decades? Education has been the key. Great universities such as the University of California, the University of Alabama, Ohio State University, Indiana University and others today provide optometric education hardly forseen a decade ago, let alone five decades ago. Research in eye and visual problems in these institutions has provided eye care and vision care to Americans surpassing any other vision care worldwide.

Ten years ago, the Montana Legislature granted certain optometrists the priviledge, with proper education, to use diagnostic eye drugs, believing it was in the public interest. And it was. You were right. Every change in our profession has been preceded by education.

Now, Montana optometrists are asking for the priviledge, with proper education, to use drugs to treat common and routine eye diseases. Other diseases and surgery cases will be referred as now to secondary and tertiary practitioners. True practitioners in every profession do not try to treat beyond their education and ability.

Time and change march on. Progress comes through education and need. The education is here. The need is here.

Dramatic changes - yes indeed - and mostly in my lifetime.

Ten years ago, I and some of the other older practitioners took the course for use of diagnostic drugs. It was tough and comprehensive and not all passed. No one was forced to take the course. Each paid for his education. No state aid was involved. I am proud to say I passed! I use these drugs every day in my practice. And I am a better practitioner for it.

When this bill passes, I intend to take the course. It will be a course designed, given, and taught by accredited universities as stated in the bill - the same accrediting groups which accredit medical and dental schools. It will be equally tough - maybe tougher than it was ten years ago. Maybe I won't pass this time, but I'll give it a try. No one will be grandfathered, but I will be a better practitioner for the education.

However, there are elements which have been opposed to growth and progress in this profession for over 75 years, using the same hypothetical arguments of inadequate optometric education, optometric incompetence, and risk to the public health and safety. There was opposition to licensure in the early 1900's, opposition to university courses and advanced doctor degrees in the 20's, 30's, and 40's, opposition to optometric testing for glaucoma in the 60's, opposition to use of diagnostic eye drugs in the 70's, and now opposition to this bill for drug use for disease. In each instance, the hypothetical arguments have proved to be wrong and

the factual results have been in the public interest. Scare tactics, and misinterpretations should have no place in a rational discussions of health care. Truth will prevail. We have always kept our pledges to the legislature, and we always will.

PROGRESS - CHANGE - EDUCATION - NEED, all these are embodied in Senate Bill 170. Members of the Committee, I ask for your support for this forward looking legislation.

EXHIBIT #1
DATE 3-12-87
HB # 170

Montana Dental Association

P. O. Box 513 Butte, Montana 59703 Phone (406) 782-9333

Constituent: AMERICAN DENTAL ASSOCI

March 12, 1987

TO: Human Services And Aging Committee

FROM: John W. Lohman, D.D.S., Secretary-Treasurer

Dear Mr. Chairman and Committee Members:

I am Dr. John Lohman from Butte. I am Secretary-Treasurer and Director of the Montana Dental Association, the professional association representing 452 members, which is over 95% of the dentists in Montana. We support SB 305 and recommend its passage. Some of the reasons for our support are as follows:

1. Oral surgeons have advanced education and training to enable them to take histories and perform physical exams for their patients.

2. Granting staff privilege is still reserved to the local hospital administrators.

3. The "history and physical" privilege is reserved to oral surgery patients and will not impact on other hospital or insurance physicals.

4. The training of oral surgeons makes them acutely aware of the need to refer patients to medical doctors when special needs and considerations are noted.

5. Allowing oral surgeons to take histories and physicals will save money for patients who otherwise have to call in an M.D. for hospital admittance for oral surgery procedures.

6. Present law is vague and confusing, resulting in varied interpretation, and opens the door to possible liability involvement.

7. SB 305 will clear up the present confusion as recommended by the Joint Commission on Accreditation of Hospitals.

EXHIBIT
DATE
SB

TESTIMONY ON SENATE BILL 170

THURSDAY, MARCH 12, 1987

Mister Chairman and members of the Committee.

My name is Bill Simons. I am a practicing optometrist in Helena, Montana. I stand before you today in support of Senate Bill 170 for the following reasons:

Numerous comparisons will be made today between optometry and the other professions currently using therapeutic drugs. How does optometry compare to these sister professions? We should first compare optometry to her non-medical counterparts who currently prescribe drugs for treatment. In Montana, dentists are permitted statutorily to use therapeutic drugs far beyond the limits requested by optometry. If we compare their classroom and clinical training to optometrists, we find optometrists equal to or exceed their colleages in drug education and clinical experience.

Dr. David Mann, Professor of Pharmacology at Temple University Dental School compared the dental pharmacology curriculum to the optometric pharmacology curriculum at Pennsylvania College of Optometry. Dr. Mann found the following:

"the coverage between the two is remarkably similar with emphasis of areas naturally placed on those aspects of

pharmacology which the particular specialty demands. The optometric presentation goes beyond ours in both drug classes offered and hours involved."

An additional point I'd like to make is in response to the comments by eye surgeons that few of the patients seen by optometry students have actual eye disease. Southern California College of Optometry just completed a study of their patient files and found the actual percentage of patients examined with ocular disease or ocular manifestations of systemic disease was over 53 percent.

The most important comparison today is between the optometrist and the general physician as it relates to the treatment and management of eye disease. In a comparison study done between optometry students and general medical students, the optometry student saw 1,27Ø direct patient eye care cases. The general medical students saw only 8Ø patient eyecare cases. Even with this limited background in eye disease management, general practitioners treat the majority of primary eye disease.

Because of optometry's intense study in eye disease, drug education and proper instrumentation (of which the general practitioner has very little) it is clear that optometric education and competencies are more extensive than the general physician in the area of diagnosing and treating eye disease.

A family practice physician and legally treat any condition of

the eye. However, those doctors only treat those conditions for which he is trained and refers those he can't to the proper specialty. So does the optometrist treat only those conditions for which he is trained. There is no reason to assume an optometrist has any less moral responsibility than a physician.

The true comparisons should be optometry to family practice medicine and dentistry. Unfortunately, the comparison between optometry and ophthalmology clouds the issue.

In closing, let me pose this question: If you developed a sore tooth would you seek care from an oral surgeon? Probably not. You would go to a dentist who would look at you first and only if necessary refer you to the oral surgeon, who is a specialist consulted in advanced oral/surgical treatment. Comparing the education of a general dentist to an oral surgeon is unrealistic, as it would be in any health care field.

The same is true with primary eye treatment. It should be done by the family practitioner of eyecare, the Optometrist, and leave advanced medical and surgical treatment to the specialist, the Ophthalmologist.

Thank you.

EXHIBIT
DATE
HB

Jenny **Younger**

Democrat For State Legislature

March 12, 1986

Testimony to the House Human Services Committee in opposition to Senate Bill 170.

Mr. Chairman, Ladies and Gentlemen of the Committee:

I am Jenny Younger, spouse of a Bozeman physician, and an unsuccessful legislative candidate for the Montana House. I am here today to speak in opposition to Senate Bill 170. There was a time when doctors were viewed as the final arbiters on public health. Today, the Congress and state legislatures are assuming that role... with the medical profession being but one voice among many. All too often, government's decisions are not based on the facts of the case or issue, but rather on the political clout of those groups most active in the political process.

As a consequence, physicians are frustrated when the federal grovernment attempts to make medical decisions with life or death implications, or attempts to set mandatory physician fees for medicare patients. They are chagrined when their own state legislators pass laws which reduce the quality of health care provided in their state, and in many cases actually jeopardize the public safety.

Senate Bill 170, if enacted, will infact do just that...jeopardize the eye healthcare of the citizens of Montana. If I were one of you, I would not want this piece of legislation on my conscience. I urge you to vote no on Senate Bill 170. Thank you.

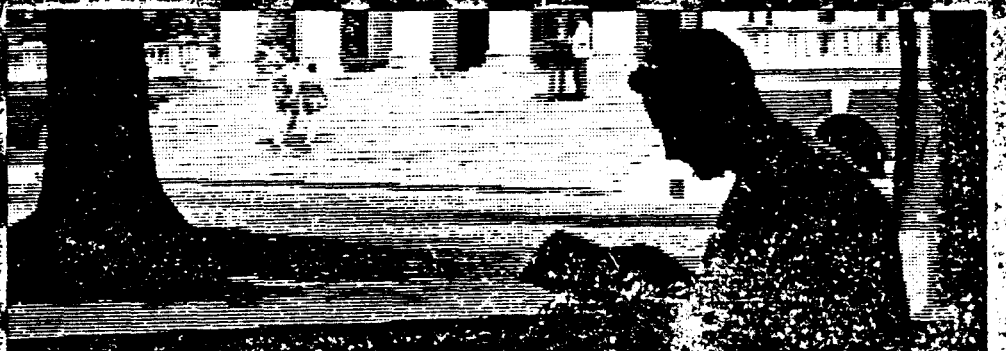
SECOND EDITION, REVISED

1983-1984 The Gourman Report

A RATING OF

Graduate and Professional

PROGRAMS IN AMERICAN & INTERNATIONAL UNIVERSITIES



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Dr. Jack Gourman

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Wayne Field, Founder
The Wealth Institute of America, Edina, Minnesota

Dr. Jack Gourman, Professor of Political Science at California State University, Northridge, has been preparing assessments of education for over 25 years and has authored numerous books on the subject.

Professor Gourman is the leading international authority of the assessment of higher education.

He is consultant to several major corporations and governmental agencies on educational problems.

National Education Standards is an organization whose prime function is the evaluation of the effectiveness and quality of institutions of higher education in the United States and throughout the world.

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The GOURMAN REPORT

A Rating of Graduate and Professional Programs in American and International Universities

SECOND EDITION
Revised

Dr. Jack Gourman

National Education Standards

PREFACE to the first edition

This text was conceived in order to fill a need for a sophisticated higher-level general work on the quality of graduate and professional education.

This study, the first of a forthcoming series of Reports assessing the relative strengths of academic institutions and ranks the effectiveness of graduate and professional programs in the United States, Canada and International universities.

My multi-dimensional study is a careful appraisal with specific standards on higher education. The Gourman Rating is a continuous process. Evaluations are constantly being made on such factors as administration (non-departmental and departmental areas), faculty instruction, faculty research and publications, library resources for specific fields of study, student admissions policies and scholarship, budget requests and physical plant facilities.

The Gourman Report has stimulated professional interest and has aroused administrators for improving their graduate and professional degree offerings. There are clusters of institutions that have not taken stock periodically of the strengths and weaknesses of their programs. Any dynamic school needs to be evaluated at intervals so that it can keep alert, flexible and incorporate improvements. Furthermore, administrators need to compare their own programs and its activities with recommended standards and practices.

The comparative findings presented is necessary in order to determine the effectiveness and quality of higher education. The results of my principle findings summarize the current state of graduate and professional education.

In light of the serious problems facing higher education today and the necessity to reexamine priorities, several institutions are drawn to critical review:

1. Objectives of the program are not defined and misunderstood.
2. The present program is not appraised to meet the needs and problems of students and faculty.
3. Institutional reports are not evaluated and beneficial changes not recommended.
4. A reluctance of administrators to reveal the weakness of program.
5. The community shares a false image provided by the public relations of the institution to cover-up deficiencies in their programs.
6. Lack of improvement in the quality of administrators, faculty instruction, curriculum, library resources and the physical plant.
7. Clusters of institutions with inferior undergraduate programs offer graduate training.
8. Inadequate admissions policies for students not prepared to enter graduate and professional schools.
9. Poor counseling to students.
10. Misuse of funds to improve upon faculty, curriculum, library resources and physical areas.

11. Teacher education programs and training below average.

12. Institutional imperialism. (Special interest pressure by administrators)

13. Lack of financial student grants and scholarships.

14. Inadequate faculty salaries.

15. Inadequate funds for faculty research.

A footnote to the Report

On the basis of the multi-dimensional criteria and data gathered for this report a limited number of American institutions did measure up to the performance of the International universities. Of significance, French and USSR higher education was found to be vastly superior in several professional areas to that of the United States, United Kingdom, Canada and other educational centers abroad.

The author is indebted to a great many people for assistance in the preparation of this book. This work would not have been completed without the aid and counsel of a large number of individuals in higher education. I am grateful to the many critics who have offered wide-ranging suggestions for the improvement of the manuscript. My heaviest obligation, however, is to the multitude of college and university faculty members, presidents, administrators and trustees/regents who provided information for this report with the understanding that their names would not be used. It was a privilege, in the full sense of the word, to share the excitement of this venture with them to find their encouragement unfailing.

Finally, a deep sense of gratitude is expressed to my wife Blanka, whose assistance and encouragement served to bring a difficult and complicated job to a successful conclusion.

In the final analysis, a book represents the work and thought of its author. I therefore accept full responsibility for the errors of commission and the sins of omission within a work so ambitious in scope.

Jack Gourman

Northridge, California
January, 1980

PREFACE to the second edition

In the Second Edition, the author has sought new developments and feasible innovations from authoritative resources and experiences.

The author gathered specific departmental information for graduate and professional departments in over a thousand colleges and universities.

The 1983 Report updates the 1980 qualitative study and widens the assessment of disciplines and graduate institutions.

The findings presented will help administrators make the difficult decisions they face concerning allocations of resources and support for graduate programs. Decisions regarding directing a program's emphasis, recruiting decisions, and the like may be helped by these findings.

Several institutions have reported that they were using this study to launch systematic efforts to upgrade the quality of their graduate/professional programs.

Prospective graduate students often are faced with difficult choices regarding which school to attend may find this study helpful.

No study of this kind can be carried out without the help and advice of numerous administrators and colleagues in the United States and abroad.

A special thanks to my wife Blanka for her invaluable assistance.

The author is solely accountable for all errors—either of omission or of commission.

Jack Gourman

Northridge, California
September, 1982

PREFACE

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CONTENTS

CONTENTS

OBJECTIVES AND PROCEDURES FOR COMPARATIVE ASSESSMENT IN GRADUATE AND PROFESSIONAL HIGHER EDUCATION

Introduction

There are no groups in the United States concerned with disseminating specific and critical information on the *quality* of colleges and universities comparable to the work of the Gourman Report. The regional and national accrediting associations are not concerned about quality. Fact and fiction with regard to the quality of the work done by the institutions of higher learning is a delicate subject. The weaknesses and malfunctions are not known. The public is not informed about the facts. The choice and means to display colleges and universities accurately and comprehensively is a large problem requiring full exploration. Accreditation appears to be mainly a finding that an institution is not conspicuously defective in physical and staff resources. According to the Gourman Report there are far too many accredited institutions lacking in staff resources and other vital elements. Institutions which are miles apart in quality receive the same simple approval in terms of certification to the public by the accrediting agencies.

It is the purpose of the Gourman Report to evaluate the total structure, direction and performance of each academic department and non-departmental areas of colleges and universities. The Gourman Report will continue to determine the state of quality of our institutions. As further data is gathered and properly analyzed we will make reliable and consistent records of what is being observed. Even if statements are accepted at face value, they do not reveal the state of intimidation or the degree of public confidence in the quality of education. Because of strict standards of the Gourman Report we are able to play a more prominent role in reporting on the reality of quality of the institutions abroad and in the United States.

The Gourman Report is an instrument for the maintenance of higher educational standards. Among the purposes of the Gourman Report:

1. To promote and advance all phases of higher education.
2. To identify to the public, students, educational institutions, professional societies, employers, governmental agencies, and state boards of examiners, the strength and weakness of the institution and specific programs that do not meet high standards.
3. Protect society against prepared professional practitioners.
4. Aid licensing authorities.
5. Facilitate the transfer of students.
6. Aid students and parents to identify sound institutions.
7. Aid institutions in withstanding improper political pressures.
8. Stimulated broad consideration of educational problems and issues of more than local concern.
9. Aid administrators and faculty members in their efforts to upgrade graduate, professional programs and non-departmental levels.

10. To provide guidance for the improvement of the existing educational programs and for the development of future programs.

11. To stimulate the improvement of higher education.

12. Aid to eliminate fraudulent and inferior institutions.

13. To establish higher standards for entrance into the professions.

14. Aid foundations in fund-giving to colleges and universities.

15. Aid personnel directors – private and public on the quality of higher education.

16. Aid colleges and universities on graduate and professional admissions policies.

Policies

Through continuing and careful study of the problem of assessment, the Gourman Report has evolved the following basic policies:

1. To evaluate and rank graduate and professional programs.

2. To evaluate and rank non-departmental areas.

3. To evaluate and rank Law Schools.

4. To evaluate and rank Medical Schools.

5. To evaluate and rank Dental Schools.

6. To evaluate and rank Pharmacy Schools.

7. To evaluate and rank Nursing Schools.

8. To evaluate and rank Optometry Schools.

9. To evaluate and rank Public Health Schools.

10. To evaluate and rank Veterinary Schools.

11. To evaluate and rank international institutions of higher learning:
    a. graduate
    b. law
    c. medicine
    d. faculty
    e. administration
    f. curriculum

g. students

h. non-departmental areas

12. To evaluate and rank institutions of higher learning.

13. To invite institutions to submit programs.

14. To evaluate and rank institutions who are accredited and non-accredited.

15. To use rigid standards as a basis for evaluation.

16. To assess qualitative as well as quantitative factors in the ranking of a department or program, non-departmental levels, professional areas such as law and medicine and the total institution rating.

17. To evaluate and determine the equivalence of degrees.

18. To evaluate and rank teacher training programs.

19. To publish a list of programs and institutions accredited by the Gourman Report.

20. To publish updating of the ratings.

Method of Evaluation

An institution's academic program and non-departmental areas will be evaluated on the basis of data and supplemental reports relating to:

1. Auspices, control and organization of the institution.

2. Total educational programs offered and degrees conferred.

3. Total number of non-departmental areas.

4. Age of the institution and of the individual discipline or program and division.

5. Basis of and requirements for admission of students:
   a. graduate
   b. law
   c. medicine
   d. professional

6. Number of students enrolled:
   a. graduate programs
   b. Law Schools
   c Medical Schools
   d. Dental Schools

The GOURMAN REPORT
PART III

PROFESSIONAL PROGRAMS
A Rating of Canadian Dental Schools
A Rating of U.S.A. Dental Schools
A Rating of Canadian Medical Schools
A Rating of International Medical Schools
A Rating of U.S.A. Medical Schools
A Rating of U.S.A. Veterinary Medical Schools
Comparative Ranking of International and U.S.A. Medical Schools

U.S.A. MEDICAL SCHOOLS
Distinguished

Nineteen institutions with scores in the 4.6–5.0 range, in rank order

INSTITUTION	Rank	Score	Admini-stration	Curricu-lum	Faculty Instruction	Faculty Research	Library Resources (Medical)
Harvard Medical School, Boston	1	4.97	4.95	4.96	4.98	4.96	4.98
Johns Hopkins University School of Medicine, Baltimore	2	4.95	4.93	4.95	4.96	4.95	4.96
University of Pennsylvania School of Medicine, Philadelphia	3	4.93	4.92	4.93	4.95	4.94	4.93
Yale University School of Medicine, New Haven	4	4.92	4.91	4.91	4.93	4.92	4.92
University of California School of Medicine, San Francisco	5	4.90	4.90	4.91	4.91	4.90	4.90
University of Chicago Pritzker School of Medicine, Chicago	6	4.89	4.89	4.90	4.90	4.88	4.89
Columbia University College of Physicians & Surgeons, New York	7	4.88	4.87	4.90	4.90	4.86	4.88
Cornell University Medical College, New York	8	4.86	4.86	4.88	4.89	4.84	4.83
Stanford University School of Medicine, Palo Alto	9	4.84	4.84	4.86	4.87	4.81	4.80
University of Michigan Medical School, Ann Arbor	10	4.81	4.80	4.84	4.85	4.76	4.78
University of California School of Medicine, Los Angeles	11	4.76	4.75	4.80	4.81	4.70	4.75
Duke University School of Medicine, Durham	12	4.74	4.73	4.76	4.77	4.69	4.73
New York University School of Medicine, New York	13	4.72	4.71	4.74	4.76	4.68	4.69
Northwestern University Medical School, Chicago	14	4.70	4.68	4.73	4.74	4.67	4.68
Tulane University School of Medicine, New Orleans	15	4.68	4.66	4.71	4.73	4.65	4.67
University of Minnesota Medical School, Minneapolis	16	4.67	4.65	4.69	4.71	4.64	4.66
University of Rochester School of Medicine & Dentistry, Rochester	17	4.66	4.64	4.68	4.69	4.63	4.64
Vanderbilt University School of Medicine, Nashville	18	4.64	4.62	4.66	4.67	4.62	4.63
Washington University School of Medicine, St. Louis	19	4.63	4.61	4.64	4.65	4.61	4.62

U.S.A. MEDICAL SCHOOLS (Continued)
Strong

Thirty-two institutions with scores in the 4.0–4.5 range, in rank order

INSTITUTION	Rank	Score	Administration	Curriculum	Faculty Instruction	Faculty Research	Library Resources (Medical)
University of California School of Medicine, San Diego	20	4.50	4.49	4.50	4.51	4.49	4.52
University of Virginia School of Medicine, Charlottesville	21	4.49	4.48	4.49	4.50	4.48	4.50
University of North Carolina School of Medicine, Chapel Hill	22	4.48	4.47	4.48	4.48	4.47	4.49
Tufts University School of Medicine, Boston	23	4.47	4.46	4.47	4.47	4.46	4.48
University of California School of Medicine, Davis	24	4.46	4.45	4.46	4.46	4.45	4.47
Boston University School of Medicine, Boston	25	4.45	4.44	4.45	4.45	4.44	4.46
Indiana University School of Medicine, Indianapolis	26	4.44	4.43	4.44	4.44	4.43	4.45
University of Wisconsin Medical School, Madison	27	4.43	4.42	4.43	4.43	4.42	4.44
University of Illinois College of Medicine, Chicago	28	4.42	4.41	4.42	4.42	4.41	4.43
University of Iowa College of Medicine, Iowa City	29	4.41	4.40	4.41	4.41	4.40	4.42
State University of New York at Buffalo, School of Medicine	30	4.40	4.39	4.40	4.40	4.39	4.41
Ohio State University College of Medicine, Columbus	31	4.39	4.38	4.39	4.39	4.38	4.40
Temple University School of Medicine, Philadelphia	32	4.38	4.37	4.38	4.38	4.37	4.39
Baylor College of Medicine, Houston	33	4.37	4.36	4.37	4.37	4.36	4.38
Georgetown University School of Medicine, Washington, D.C.	34	4.36	4.35	4.36	4.36	4.35	4.37
George Washington University School of Medicine, Washington D.C.	35	4.35	4.34	4.35	4.35	4.34	4.36
University of Washington School of Medicine, Seattle	36	4.34	4.33	4.34	4.34	4.33	4.35
Bowman Gray School of Medicine, Winston-Salem	37	4.33	4.32	4.33	4.33	4.32	4.34
Emory University School of Medicine, Atlanta	38	4.32	4.31	4.32	4.32	4.31	4.33
University of Kansas School of Medicine, Kansas City	39	4.31	4.30	4.31	4.31	4.30	4.32
Loma Linda University School of Medicine, Loma Linda	40	4.30	4.29	4.30	4.30	4.29	4.31
Loyola University of Chicago Stritch School of Medicine	41	4.28	4.27	4.28	4.29	4.27	4.30
University of Louisville School of Medicine, Louisville	42	4.27	4.25	4.27	4.28	4.26	4.29
Saint Louis University School of Medicine, St. Louis	43	4.26	4.23	4.26	4.27	4.25	4.28
University of California College of Medicine, Irvine	44	4.24	4.21	4.23	4.25	4.23	4.27
Dartmouth Medical School, Hanover	45	4.22	4.19	4.20	4.23	4.21	4.26
University of Southern California School of Medicine, Los Angeles	46	4.20	4.17	4.18	4.20	4.19	4.25
University of Missouri School of Medicine, Columbia	47	4.18	4.16	4.17	4.18	4.17	4.24
Wayne State University School of Medicine, Detroit	48	4.17	4.14	4.15	4.16	4.15	4.23
Albert Einstein College of Medicine of Yeshiva University, New York	49	4.15	4.12	4.13	4.14	4.12	4.22
Brown University Program in Medical Sciences	50	4.13	4.10	4.11	4.12	4.10	4.21
State University of New York at Stony Brook School of Medicine	51	4.11	4.08	4.09	4.10	4.06	4.20

U.S.A. MEDICAL SCHOOLS (Continued)
Good

Twenty-eight institutions with scores in the 3.6—3.9 range, in rank order

INSTITUTION	Rank	Score	Administration	Curriculum	Faculty Instruction	Faculty Research	Library Resources (Medical)
Case Western Reserve University School of Medicine, Cleveland	52	3.89	3.88	3.89	3.90	3.88	3.90
University of Colorado School of Medicine, Denver	53	3.88	3.87	3.88	3.88	3.87	3.88
University of Connecticut School of Medicine, Farmington	54	3.86	3.86	3.87	3.87	3.85	3.87
Creighton University School of Medicine, Omaha	55	3.85	3.85	3.86	3.86	3.84	3.86
University of Pittsburgh School of Medicine, Pittsburgh	56	3.84	3.84	3.85	3.85	3.83	3.85
Mount Sinai School of Medicine of the City University of New York	57	3.83	3.83	3.84	3.84	3.82	3.84
University of Maryland School of Medicine, Baltimore	58	3.82	3.82	3.83	3.83	3.81	3.83
University of Oregon Medical School, Portland	59	3.81	3.81	3.82	3.82	3.80	3.82
Albany Medical College of Union University, Albany	60	3.80	3.80	3.81	3.81	3.79	3.81
University of Utah College of Medicine, Salt Lake City	61	3.79	3.79	3.80	3.80	3.78	3.80
University of Florida College of Medicine, Gainesville	62	3.78	3.78	3.79	3.79	3.77	3.79
Louisiana State University School of Medicine, New Orleans	63	3.77	3.77	3.78	3.78	3.76	3.78
University of Miami School of Medicine, Miami	64	3.76	3.76	3.77	3.77	3.75	3.77
Michigan State University College of Human Medicine, East Lansing	65	3.75	3.75	3.76	3.76	3.74	3.76
University of Missouri School of Medicine, Kansas City	66	3.74	3.74	3.75	3.75	3.73	3.75
University of Texas Southwestern Medical School, Dallas	67	3.73	3.73	3.74	3.74	3.72	3.74
University of Texas Medical Branch, Galveston	68	3.72	3.72	3.73	3.73	3.71	3.73
University of Texas Medical School, San Antonio	69	3.71	3.71	3.72	3.72	3.70	3.72
Pennsylvania State University College of Medicine, The Milton S. Hershey Medical Center, Hershey	70	3.70	3.70	3.71	3.71	3.69	3.71
State University of New York College of Medicine, Brooklyn	71	3.69	3.69	3.70	3.70	3.68	3.70
University of Cincinnati College of Medicine, Cincinnati	72	3.68	3.68	3.69	3.69	3.67	3.69
State University of New York College of Medicine, Syracuse	73	3.67	3.67	3.68	3.68	3.66	3.68
University of Tennessee College of Medicine, Memphis	74	3.66	3.66	3.67	3.67	3.65	3.67
Louisiana State University School of Medicine, Shreveport	75	3.65	3.65	3.66	3.66	3.64	3.66
University of Oklahoma School of Medicine, Oklahoma City	76	3.64	3.64	3.65	3.65	3.63	3.65
University of Nebraska College of Medicine, Omaha	77	3.63	3.63	3.64	3.64	3.62	3.64
University of Kentucky College of Medicine, Lexington	78	3.62	3.62	3.63	3.63	3.61	3.63
University of Vermont College of Medicine, Burlington	79	3.61	3.61	3.62	3.62	3.60	3.62

U.S.A. MEDICAL SCHOOLS (Continued)
Acceptable Plus

Forty-five institutions with scores in the 3.0–3.5 range, in rank order

INSTITUTION	Rank	Score	Administration	Curriculum	Faculty Instruction	Faculty Research	Library Resources (Medical)
New York Medical College, New York	80	3.51	3.49	3.50	3.52	3.51	3.53
Jefferson Medical College of Thomas Jefferson University, Philadelphia	81	3.50	3.48	3.49	3.51	3.50	3.52
University of Alabama School of Medicine, Birmingham	82	3.49	3.47	3.48	3.50	3.49	3.51
West Virginia University School of Medicine, Morgantown	83	3.48	3.46	3.47	3.49	3.48	3.50
University of Texas Medical School, Houston	84	3.47	3.45	3.46	3.48	3.47	3.49
University of Arkansas School of Medicine, Little Rock	85	3.46	3.44	3.45	3.47	3.46	3.48
Hahnenmann Medical College and Hospital, Philadelphia	86	3.45	3.43	3.44	3.46	3.45	3.47
UMDNJ-New Jersey Medical School, Newark	87	3.44	3.42	3.43	3.45	3.44	3.46
University of Mississippi School of Medicine, Jackson	88	3.43	3.41	3.42	3.44	3.43	3.45
University of New Mexico School of Medicine, Albuquerque	89	3.42	3.40	3.41	3.42	3.42	3.44
Medical University of South Carolina College of Medicine, Charleston	90	3.41	3.39	3.40	3.41	3.41	3.43
University of Arizona College of Medicine, Tucson	91	3.40	3.38	3.39	3.40	3.40	3.42
Medical College of Pennsylvania, Philadelphia	92	3.39	3.37	3.38	3.39	3.39	3.41
MeHarry Medical College School of Medicine, Nashville	93	3.38	3.36	3.37	3.38	3.38	3.40
Rush Medical College, Chicago	94	3.37	3.35	3.36	3.37	3.37	3.39
Medical College of Wisconsin, Milwaukee	95	3.36	3.34	3.35	3.36	3.36	3.38
Medical College of Virginia, Richmond	96	3.35	3.33	3.34	3.35	3.35	3.37
Medical College of Georgia, Augusta	97	3.34	3.32	3.33	3.34	3.34	3.36
Medical College of Ohio at Toledo	98	3.33	3.31	3.32	3.33	3.33	3.35
Chicago Medical School University of Health Sciences, Chicago	99	3.32	3.30	3.31	3.32	3.32	3.34
Howard University College of Medicine, Washington, D.C.	100	3.31	3.29	3.30	3.31	3.31	3.33
University of South Florida College of Medicine, Tampa	101	3.30	3.28	3.29	3.30	3.30	3.32
Southern Illinois University School of Medicine, Springfield	102	3.29	3.27	3.28	3.29	3.29	3.31
Texas Tech University School of Medicine, Lubbock	103	3.28	3.26	3.27	3.28	3.28	3.30
UMDNJ-Rutgers Medical School, Piscataway	104	3.27	3.25	3.26	3.27	3.27	3.29
University of Hawaii School of Medicine, Honolulu	105	3.26	3.24	3.25	3.26	3.26	3.28
University of Massachusetts Medical School, Worcester	106	3.25	3.23	3.24	3.25	3.25	3.27
Mayo Medical School, Rochester	107	3.24	3.22	3.23	3.24	3.24	3.26
University of Puerto Rico School of Medicine, San Juan	108	3.23	3.21	3.22	3.23	3.23	3.25
University of Minnesota School of Medicine, Duluth	109	3.22	3.20	3.21	3.22	3.22	3.24
University of Nevada School of Medical Science, Reno	110	3.21	3.19	3.20	3.21	3.21	3.23
University of South Carolina School of Medicine, Columbia	111	3.20	3.18	3.19	3.20	3.20	3.22
Uniformed Services University of the Health Sciences School of Medicine, Bethesda	112	3.19	3.17	3.18	3.19	3.19	3.21
University of North Dakota School of Medicine, Grand Forks	113	3.18	3.16	3.17	3.18	3.18	3.20
University of South Dakota School of Medicine, Vermillion	114	3.17	3.15	3.16	3.17	3.17	3.19
Northeastern Ohio Universities College of Medicine, Rootstown	115	3.16	3.14	3.15	3.16	3.16	3.18
East Carolina University School of Medicine, Greenville	116	3.15	3.13	3.14	3.15	3.15	3.17
Marshall University School of Medicine, Huntington	117	3.14	3.12	3.13	3.14	3.14	3.16
Eastern Virginia Medical School, Norfolk	118	3.13	3.11	3.12	3.13	3.13	3.15
East Tennessee State University College of Medicine, Johnson City	119	3.12	3.10	3.11	3.12	3.12	3.14
University of South Alabama College of Medicine, Mobile	120	3.10	3.08	3.09	3.11	3.10	3.12
Texas A&M University College of Medicine, College Station	121	3.09	3.07	3.08	3.10	3.09	3.11
Wright State University School of Medicine, Dayton	122	3.08	3.06	3.07	3.09	3.08	3.10
Oral Roberts School of Medicine, Tulsa	123	3.07	3.05	3.06	3.08	3.07	3.09
School of Medicine at Morehouse College, Atlanta	124	3.05	3.03	3.04	3.06	3.06	3.07

The GOURMAN REPORT
PART IV

PROFESSIONAL PROGRAMS
A Rating of U.S.A. Nursing Schools
A Rating of U.S.A. Optometry Schools
A Rating of Canadian Pharmacy Schools
A Rating of U.S.A. Pharmacy Schools
A Rating of U.S.A. Public Health Schools

A RATING OF GRADUATE PROGRAMS IN OPTOMETRY
Leading Institutions

Thirteen institutions with scores in the 4.0–5.0 range, in rank order

INSTITUTION	Rank	Score	Administration	Curriculum	Faculty Instruction	Faculty Research	Library Resources (Optometry)
University of California, Berkeley School of Optometry	1	4.96	4.95	4.96	4.96	4.96	4.96
The Ohio State University College of Optometry	2	4.94	4.93	4.94	4.94	4.94	4.94
Indiana University School of Optometry	3	4.92	4.92	4.92	4.92	4.92	4.92
University of Alabama, Birmingham School of Optometry	4	4.89	4.86	4.90	4.92	4.88	4.89
University of Houston College of Optometry	5	4.87	4.84	4.88	4.91	4.87	4.86
Illinois College of Optometry	6	4.86	4.83	4.86	4.90	4.84	4.85
SUNY–State College of Optometry	7	4.84	4.82	4.85	4.90	4.83	4.82
Pennsylvania College of Optometry	8	4.82	4.81	4.82	4.87	4.81	4.81
New England College of Optometry	9	4.80	4.78	4.80	4.84	4.79	4.77
Southern California College of Optometry	10	4.76	4.74	4.77	4.81	4.76	4.74
Ferris State College of Optometry	11	4.73	4.71	4.71	4.80	4.72	4.71
Pacific University College of Optometry	12	4.70	4.69	4.70	4.79	4.68	4.66
Southern College of Optometry	13	4.67	4.66	4.66	4.78	4.63	4.61

TABLE 6
A Rating of Medical Schools: International and the U.S.A.

	Selected Number of Medical Schools Evaluated	Quality Medical Schools Listed in the Gourman Report	Total Number of Medical Programs Evaluated	Total Number of Faculty Areas Evaluated	Total Number of Administrative Areas Evaluated	Total Number of Curriculum Areas Evaluated
International Medical Schools	852	90	852	401,336	342,129	501,176
U.S.A. Medical Schools	124	124*	124	125,830	101,147	299,269
Comparative Ranking of International and U.S.A. Medical Schools	978	99	978	527,166	443,276	800,445

*U.S.A. Schools of Medicine

Rating Categories	Numerical Range	Number of Institutions
Distinguished	4.6 – 5.0	19
Strong	4.0 – 4.5	32
Good	3.6 – 3.9	28
Acceptable Plus	3.0 – 3.5	45
	TOTAL	124

TABLE 7
A Rating of United States Nursing Schools

Selected Number of Nursing Schools Evaluated	Quality Nursing Schools Listed in the Gourman Report	Total Number of Nursing Programs Evaluated	Total Number of Curriculum Areas Evaluated	Total Number of Faculty Areas Evaluated	Total Number of Administrative Areas Evaluated
75	75	75	4,324	2,798	2,035

TABLE 8
A Rating of United States Optometry Schools

Selected Number of Optometry Schools Evaluated	Quality Optometry Schools Listed in the Gourman Report	Total Number of Optometry Programs Evaluated	Total Number of Curriculum Areas Evaluated	Total Number of Faculty Areas Evaluated	Total Number of Administrative Areas Evaluated
13	13	13	994	587	513

TABLE 9
A Rating of Canadian Pharmacy Schools

Selected Number of Pharmacy Schools Evaluated	Quality Pharmacy Schools Listed in the Gourman Report	Total Number of Pharmacy Programs Evaluated	Total Number of Curriculum Areas Evaluated	Total Number of Faculty Areas Evaluated	Total Number of Administrative Areas Evaluated
8	8	8	859	684	539

Adverse Respiratory and Cardiovascular Events Attributed to Timolol Ophthalmic Solution, 1978–1985

Wendy L. Nelson, M.P.H., Frederick T. Fraunfelder, M.D., Judith M. Sills, Pharm.D., Janet B. Arrowsmith, M.D., and Joel N. Kuritsky, M.D.

Between September 1978 and December 1985, 150 case reports of serious respiratory and cardiovascular events and 32 case reports of death attributed to ophthalmic timolol were received by the United States Food and Drug Administration and the National Registry of Drug-Induced Ocular Side Effects. Two hundred sixty-seven patients (55%) experienced a cardiac arrhythmia or a bronchospasm-related event. The median age was 68 years (n = 365). Fifty-five percent of the patients were women and 45% were men (n = 41). Of the 212 persons for whom medical history was provided, 129 (61%) had respiratory disease, 65 (31%) had cardiovascular disease, 13 (6%) had other illnesses, and five (2%) had no underlying illness. Of the 318 patients for whom data on duration of drug use were available 106 (33%) experienced their adverse event within one week of beginning timolol therapy; 73 (23%) had their events on the first day of therapy. Of 192 patients for whom information was available 177 (92%) improved after the drug was discontinued.

TIMOLOL MALEATE ophthalmic solution is a non-selective beta-adrenergic receptor antagonist indicated for the treatment of glaucoma and increased intraocular pressure. It was the first beta-receptor antagonist approved by the United States Food and Drug Administration for the treatment of glaucoma and was regarded as a therapeutic advance in the treatment of the disease. Ophthalmic timolol has been marketed in the United States since September 1978. Approximately 40 million prescriptions were dispensed to patients from domestic retail pharmacies between 1978 and 1985.[1]

Early clinical studies[2-6] reported that timolol was an effective ocular hypotensive without the side effects associated with other antiglaucoma agents. However, because persons with underlying cardiovascular or respiratory disease were excluded from a number of these studies,[7,8,9,10] the risk of serious cardiovascular and respiratory side effects may have been underestimated. In 1979, shortly after the drug was available for use in the general population, reports of ophthalmic timolol-associated adverse reactions began to appear. Among these were reports of severe cardiac and respiratory events,[11,12] including respiratory distress in infant users of timolol.[11,12] Van Buskirk[13] reviewed the 547 adverse drug experience reports submitted by physicians to the National Registry of Drug-Induced Ocular Side Effects between Oct. 1, 1978, and Sept. 1, 1979, and found systemic reactions in approximately one half of the cases. These included 70 cardiac and 37 respiratory events. Another case series[28] comprising the first 489 patients treated with ophthalmic timolol at Wills Eye Hospital, Philadelphia, reported an overall side effect rate of 15.9% among timolol users. In a third case series,[15] 38 of 165 patients (23%) experienced adverse reactions involving at least one organ system when topical timolol was added to their existing glaucoma medication regimen. Therapy had to be discontinued in 15 of these patients because of central nervous system, cardiovascular, respiratory, or ocular side effects.

In June 1985 the National Registry of Drug-Induced Ocular Side Effects notified the Food and Drug Administration of their concern over a large number of reports of serious adverse respiratory and cardiovascular events associated with ophthalmic timolol therapy. Although the manufacturer's product labelling states that the drug should not be used by persons for whom beta-adrenergic blocking agents are contraindicated, the National Registry of Drug-Induced Ocular Side Effects was concerned that the drug was being improperly prescribed for patients at increased risk for side effects of beta-adrenergic blockade. The Food and Drug Administration subsequently reviewed its Spontaneous Reporting System for reports of adverse respiratory and cardiovascular events associated with ophthalmic timolol. This article summarizes the reports received by the Food and Drug Administration and the National Registry of Drug-Induced Ocular Side Effects.

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Material and Methods

The Food and Drug Administration Spontaneous Reporting System[27] collects reports of adverse events associated with drugs and biologic products from drug manufacturers, health professionals, and consumers. Drug manufacturers are required by law[28] to notify the Food and Drug Administration about adverse drug experiences reported to them, while direct reports from health professionals and consumers are submitted voluntarily. Although the Spontaneous Reporting System receives reports for only a fraction of the actual number of adverse drug reactions, it helps signal possible problems with drug use, such as side effects and toxicity not recognized in preclinical trials or problems within a particular subset of the user population. The National Registry of Drug-Induced Ocular Side Effects, a specialty registry database supported by the Food and Drug Administration, is located at the Oregon Health Sciences University in Portland. The Registry collects and evaluates spontaneous reports, primarily from ophthalmologists, of adverse ocular events associated with drug use.

We reviewed reports of serious respiratory events, serious cardiovascular events, and death attributed to ophthalmic timolol that were received by the Food and Drug Administration or the National Registry of Drug-Induced Ocular Side Effects between September 1978 and December 1985. Foreign reports and those that included multiple patients were excluded from the analysis. Case reports previously cited[15,25,29] were included.

For this review, serious adverse respiratory events were defined as follows: respiratory arrest, respiratory failure, respiratory distress, dyspnea, bronchospasm, asthma, wheezing, bronchitis, apnea, pulmonary edema, diminished pulmonary function, and exacerbation of preexisting respiratory disease. For purposes of analysis, reports of asthma, shortness of breath and wheezing, and bronchospasm were classified as bronchospasm-related events. Serious adverse cardiovascular events were defined as follows: cardiac arrest, myocardial infarction, angina, chest pain, arrhythmia, bradycardia, tachycardia, palpitations, heart failure, cardiospasm, cerebrovascular accident, syncope, unspecified cardiovascular disorders, and exacerbation of preexisting cardiovascular disease. Reports of hypertension, dizziness, headache, and hypotension not resulting in syncope were not considered to be serious. Reports of death from any cause were included.

The following data were collected for each patient who experienced one of the above events: year the report was entered into the database, age, sex, nature and outcome of the adverse event, underlying illness, concomitant medications, dose of timolol, duration of timolol use, and outcome of drug dechallenge/rechallenge. In a drug dechallenge, a drug suspected of causing serious side effects is discontinued. The dechallenge is positive if the patient improves and negative if the patient fails to improve. In a drug rechallenge the patient is reexposed to the suspect drug after it has been stopped. The rechallenge is positive if symptoms reappear and negative if symptoms do not reappear.

For reports that provided information about concomitant drug use but gave no information about underlying illness, illness was inferred from the drugs listed. For example, a patient taking digoxin would be classified as having cardiac disease.

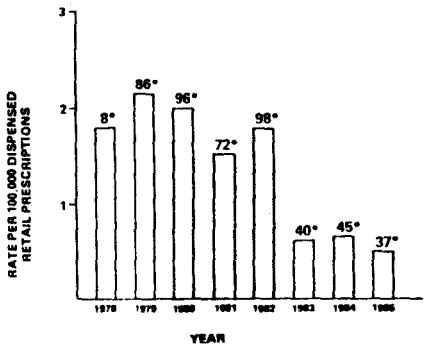
Cases were compared for city of origin and demographic characteristics to extract duplicate reports. Marketing data for ophthalmic timolol were obtained from IMS America, Ltd., Ambler, Pennsylvania. The data were analyzed descriptively to assess the nature of the adverse events and to characterize the population in which the events occurred.

Results

From September 1978 through December 1985 the Food and Drug Administration Spontaneous Reporting System and the National Registry of Drug-Induced Ocular Side Effects received more than 3,000 reports of adverse events attributed to topical timolol. Among these were 450 reports of serious respiratory and cardiovascular events and 32 reports of death: 272 reports were received by the Food and Drug Administration and 210 by the National Registry of Drug-Induced Ocular Side Effects. Rates of adverse event reporting by year are presented in the Figure.

Of the 365 persons (76%) whose ages were known, age ranged from 2 weeks to 95 years, with a median of 68 years. Among the 411 patients (85%) whose sex was known, there were 185 men (45%) and 226 women (55%).

Table 1 lists the adverse respiratory and cardiovascular events associated with ophthalmic timolol. Cardiac arrhythmias (n = 136) and bronchospasm-related events (n = 131) were the most frequently reported adverse experiences, accounting for 55% of the reports. The outcomes of the adverse events attributed to ophthalmic timolol are shown in Table 2. There was no difference in median age between the patients who died and those who survived their events.



*ABSOLUTE NUMBER OF REPORTS

Figure (Nelson and associates). Rate of reporting of adverse respiratory and cardiovascular events and deaths attributed to timolol ophthalmic solution by year, 1978–1985. Note: timolol was only available for the last four months of 1978.

TABLE 1
ADVERSE RESPIRATORY AND CARDIOVASCULAR EVENTS AND DEATHS ASSOCIATED WITH OPHTHALMIC TIMOLOL, 1978–1985

EVENT	%	NO.
Respiratory events		
Bronchospasm-related event	27.2	131
Dyspnea	13.7	66
Apnea	1.7	8
Respiratory distress	1.5	7
Respiratory failure not specified	1.0	5
Other respiratory events	2.0	10
Subtotal	47.1	227
Cardiovascular events		
Arrhythmia	28.2	136
Bradycardia (76)		
Tachycardia (6)		
Arrhythmia unspecified (54)		
Syncope	6.4	31
Cerebrovascular accident	4.1	20
Heart failure	4.6	22
Palpitations	2.3	11
Angina/chest pain	1.7	8
Other cardiovascular events	3.9	19
Subtotal	51.2	247
Death, cause unknown	1.7	8
Total	100.0	482

A synopsis of patient medical history is presented in Table 3. Of the 212 patients for whom this information was known 194 (92%) had preexisting respiratory or cardiovascular disease.

Table 4 shows both duration of timolol use before the adverse event and the outcome of the event. Among the 318 patients for whom these data were available, 73 (23%) experienced their adverse events within 24 hours after first

TABLE 2
OUTCOMES OF ADVERSE EVENTS ASSOCIATED WITH TIMOLOL OPHTHALMIC SOLUTION

OUTCOME	% OF KNOWN	NO.
Recovered	74.1	289
Died	8.2	32
Still under treatment at time report submitted	6.4	25
Survived with sequelae	6.2	24
Survived, status unknown	5.1	20
Unknown	—	92
Total	100.0	482

TABLE 3
UNDERLYING ILLNESS OF PATIENTS WHO EXPERIENCED ADVERSE EVENTS ASSOCIATED WITH OPHTHALMIC TIMOLOL

UNDERLYING ILLNESS	% OF KNOWN	NO.
Respiratory	61	129
Bronchospasm-related (85)		
Other respiratory conditions (44)		
Cardiovascular	31	65
Other	6	13
No known illness	2	5
Unknown	—	270
Total	100	482

using topical timolol. Thirty-three (10%) had their events between days 2 and 7 of therapy. Fifteen percent of the patients whose events occurred within 24 hours of first use died. Nine percent of the patients whose events occurred between days 2 and 7 of therapy died. The median age of patients who had their events within 24 hours was 68 years; the median age of patients who had their events more than 24 hours after first use was 69 years. Among the patients who had events within the first day of drug use, women outnumbered men 2.1:1. Of these patients 51% had been using 0.25% timolol and 49%, 0.50% timolol. Among those patients who had their events more than one day after first drug use, the ratio of women to men was 1.2:1. In this group, 44% of the patients were using 0.25% timolol and 56%, 0.50% timolol.

Of the 192 patients who were dechallenged with timolol 177 (92%) improved clinically. Symptoms recurred in 26 of 27 patients (96%) rechallenged with the drug.

The 32 reports of death were reviewed separately. Thirteen of these reports were classified as cardiovascular deaths, 12 as respiratory, and one as a presumed drug interaction. Cause of death was unknown in six cases. Sex was known for 30 of the 32 patients; there were 14 men (47%) and 16 women (53%).

Age, known for 27 of the 32 patients, ranged from 33 to 86 years, with a median of 68 years. Of 26 patients for whom medical history was provided 22 (85%) had preexisting respiratory or cardiovascular disease. Of 25 patients for whom duration of timolol use was known 11 (44%) experienced their adverse event within one day after first drug administration; six of these patients experienced events within two

TABLE 4
DURATION OF OPHTHALMIC TIMOLOL USE BY OUTCOME OF ADVERSE EVENT

	DURATION OF USE				
OUTCOME	1 DAY	1–7 DAYS	7 DAYS	UNKNOWN	TOTAL
Survived	52	26	176	104	358
Died	11	3	9	9	32
Unknown	10	4	27	51	92
Total	73	33	212	164	482

hours. An additional three patients had their events between the first and second day of therapy. There were two reports of sudden death.

Discussion

Ophthalmic timolol is presently contraindicated for patients with bronchial asthma, a history of bronchial asthma, severe chronic obstructive pulmonary disease, sinus bradycardia, second or third degree atrioventricular block, overt cardiac failure, or cardiogenic shock. When first marketed in 1978, the only systemic effect of beta-adrenergic blockade included in the product labelling was slight reduction in resting heart rate. By 1980, presumably in response to reports of these events to the manufacturer and in the medical literature, the product labelling had been expanded to include the following statement in the "Adverse Reactions" section:

> Aggravation or precipitation of certain cardiovascular and pulmonary disorders has been reported presumably related to effects of systemic beta blockade. These include bradyarrhythmia, hypotension, syncope and bronchospasm (predominantly in patients with pre-existing bronchospastic disease).

The 1986 product labelling contains the following warning in boldface type: "The same adverse reactions found with systemic administration of beta-adrenergic blocking agents may occur with topical administration."

The implications of the systemic absorption of ophthalmic timolol were not fully appreciated in 1978. At that time there were few highly detailed investigations of the pharmacokinetics of topical ophthalmic drugs; most pharmacokinetics studies involved orally administered systemic drugs.[10]

In two early human[2] and animal[6] studies, investigators noted decreased ocular pressure in the contralateral untreated eyes of some subjects treated with timolol. They postulated that this phenomenon might have been the result of systemic absorption of the drug. It has since been well-established that ophthalmic timolol is systemically absorbed.[29,31] Shell[30] reported that approximately 80% of a topically administered eyedrop volume drains through the nasolacrimal duct and is systemically absorbed. While 40% to 70% of an oral dose of propranolol may undergo first-pass hepatic metabolism before reaching the systemic circulation,[7] a beta-adrenergic antagonist administered in eyedrop form does not undergo such first-pass metabolism, and may behave like an intravenous drug dose.

Our data are in accordance with previous reports of timolol-associated adverse respiratory and cardiovascular events, including death. The first week of therapy appears to be a critical time period. Because the most serious side effects appear to be related to beta-adrenergic blockade, it may be useful to minimize the amount of timolol that a patient absorbs systemically. This could be accomplished by stabilizing the patient on the lowest therapeutic dose of timolol and ensuring that the patient is able to instill his eyedrops properly. Eyelid closure and nasolacrimal occlusion[3,4,5] are techniques used to decrease systemic absorption of topically applied ocular drugs. Digital pressure applied to the inner corner of the eye for several minutes following eyedrop instillation prolongs eye-drug contact while obstructing nasolacrimal drainage. As with all drug therapy, however, the clinician must weigh the risks and benefits of timolol against the risks and benefits of alternative therapies, including no treatment at all.

In reviewing data from a spontaneous reporting system, such as the Food and Drug Administration Spontaneous Reporting System or the National Registry of Drug-Induced Ocular Side Effects, it is important to recognize the inherent limitations of voluntary adverse drug reaction reporting. Submission of an adverse drug experience report does not necessarily imply a causal relationship between the drug and the event. In certain instances the relationship between drug and event is confounded by the patient's age or underlying condition. When assessing a drug like ophthalmic timolol, which is used by a predominantly elderly population that is a priori at risk for cardiovascular and respiratory disease, it is often difficult to determine whether the suspect event is a consequence of the drug, the patient's age, an underlying medical condition, or a combination of factors. Caution is necessary in interpreting reports of adverse clinical events since they probably represent the most serious drug-associated events and may not accurately reflect the larger picture. Rates generated from these data are reporting rates and should not be misconstrued as actual rates of events in the exposed population.

Ophthalmologists are encouraged to report suspected adverse drug experiences directly to the drug manufacturer, to the Food and Drug Administration Division of Epidemiology and Surveillance in Rockville, Maryland, or to the National Registry of Drug-Induced Ocular Side Effects in Portland, Oregon.

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